Oracle® Financial Services Analytical Applications Infrastructure (OFSAAI)

Installation and Configuration Guide

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Preface

This Preface provides supporting information for the Oracle Financial Services Analytical Applications Infrastructure Installation Guide and includes the following topics:

- Summary
- Audience
- Documentation Accessibility
- Related Documents
- Conventions

Summary

You can find the latest copy of this document in OTN library which includes all the recent additions/revisions (if any) done till date.

Before you begin the installation, ensure that you have an access to the Oracle Support Portal with the required login credentials to quickly notify us of any issues at any stage. You can obtain the login credentials by contacting Oracle Support.

Audience

The Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide is intended for administrators that are responsible for installing and maintaining OFSAA Infrastructure components.

The document assumes you have experience in installing Enterprise components. Basic knowledge about the OFSAA Infrastructure components, UNIX commands, Database concepts and Web Server/ Web Application Server is recommended.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

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Related Documents

This section identifies additional documents related to OFSAA Infrastructure. You can access Oracle documentation online from Documentation Library for OFSAAI 7.3 (OTN).

- Oracle Financial Services Analytical Applications Infrastructure Administration Guide
- Oracle Financial Services Analytical Applications Infrastructure Language Pack Guide
- Oracle Financial Services Analytical Applications Infrastructure User Guide
- Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide

The following document is available in My Oracle Support (MOS) and you should have SSO credentials to access MOS.

- Oracle Financial Services Analytical Applications Infrastructure Security Guide

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, file names, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, screen names, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
AIX	Advanced Interactive eXecutive
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
FTP	File Transfer Protocol
GUI	Graphical User Interface
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment

Convention	Meaning
JVM	Java Virtual Machine
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MOS	My Oracle Support
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OLAP	On-Line Analytical Processing
OS	Operating System
RAM	Random Access Memory
RDMS	Relational Database Management System
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
Web Archive	WAR
XML	Extensible Markup Language

Organization of the Guide

Every manual or guide of the OFSAA Infrastructure has specific purpose built content. The specific purpose of this guide is to explain how to:

1. Install Single Instance of OFSAA Infrastructure components.
2. Verify the installation was successful.
3. Getting started with the OFSAA Infrastructure.

Keeping in mind the above purpose, this Installation guide is organized in below parts:

Part I - Introduction and Preparation

Chapter 1, "Understanding OFSAA Infrastructure"

- What is OFSAA?
- What is OFSAA Infrastructure?
- OFSAA Infrastructure Components
- OFSAA Infrastructure High Availability

Chapter 2, "Understanding OFSAA Infrastructure Installation"

- Installation Overview
- Hardware and Software Requirements and Specifications
- Verifying the System Environment
- Understanding Installation Modes

Chapter 3, "Preparing for Installation"

- Installer and Installation Prerequisites
- Obtaining the software
- Common Installation Tasks

Part II - Installation and Configuration

Chapter 4, "Installing OFSAA Infrastructure v 7.3.3.0.0"

- Silent Mode Installation
- GUI Mode Installation

Chapter 5, "Post Installation Configuration"

- Configuring Resource Reference
- Configuring Web Application Servers

Chapter 6, "Start / Stop Infrastructure Services"

- Starting Infrastructure
- Stopping Infrastructure

Chapter 7, "Verifying the Installation"

Chapter 8, "Uninstalling OFSAA Infrastructure"

- Uninstalling OFSAA Infrastructure
- Uninstalling EAR Files in WebSphere
- Uninstalling EAR Files in WebLogic
- Uninstalling WAR Files in Tomcat

Part I

Introduction and Preparation

Part I introduces OFSAAI version 7.3.3.0.0 installation and describes how to perform preparatory and common installation tasks.

Part I contains the following chapters:

- Chapter 1, "Understanding OFSAA Infrastructure"
- Chapter 2, "Understanding OFSAA Infrastructure Installation"
- Chapter 3, "Preparing for Installation"

1

Understanding OFSAA Infrastructure

This chapter provides a brief overview of OFSAA Infrastructure version 7.3.3.0.0. This chapter includes the following topics:

- What is OFSAA?
- What is OFSAA Infrastructure?
- OFSAA Infrastructure Components
- OFSAA Infrastructure High Availability

1.1 What is OFSAA?

In today's turbulent markets, financial institutions require a better understanding of their risk-return, while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications enable financial institutions to measure and meet risk adjusted performance objectives, cultivate a risk management culture through transparency, lower the costs of compliance and regulation, and improve insight into customer behavior.

Oracle delivers a comprehensive, integrated suite of financial services analytical applications for Enterprise Performance Management, Enterprise Risk Management, Financial Crime and Compliance Management, Customer Insight, and Integrated Business Intelligence.

1.2 What is OFSAA Infrastructure?

Oracle Financial Services Analytical Applications Infrastructure powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection and manipulation of data and information needed to analyze, understand and report on specific performance, risk, compliance and customer insight issues by providing a strong foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of Risk, Performance, Compliance and Customer Insight.

The Infrastructure is comprised of a set of frameworks that operates on and with the Oracle Financial Services Analytical Applications Data Model. This infrastructure delivers unified metadata across the stack and provides a single set of computational engines, stochastic modeling methods and business rules to feed overlapping, but independent, analytical business functions such as profitability, economic capital, FTP, and regulatory capital. Pre-integrated and extensible with common objects and dimensions, this infrastructure powers business user analyses with performance that scales to meet the demands of the world's largest institutions. The individual Analytical Applications provide domain-specific data and information, computed

with and within the Infrastructure, to business users, management and even regulators, via corresponding sets of pre-built reports, alerts and dashboards. These “analytics” are delivered with Oracle's industry-leading Business Intelligence platform.

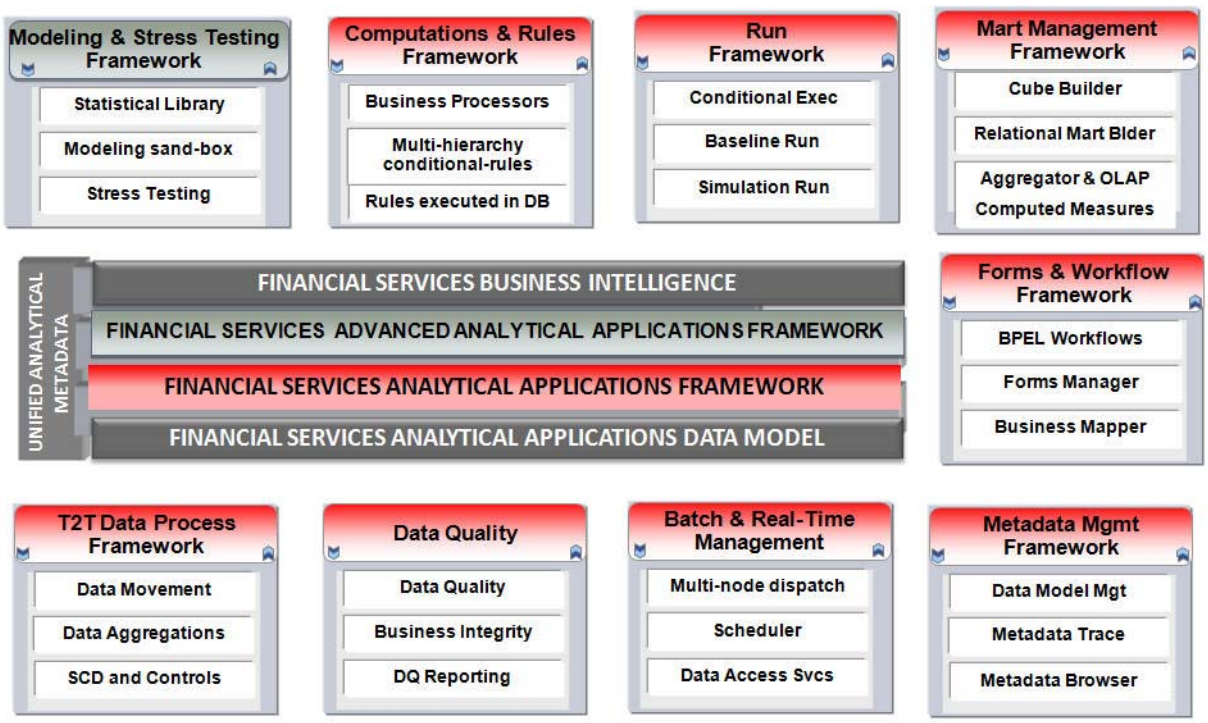
1.3 OFSAA Infrastructure Components

The OFSAA Infrastructure is comprised of a set of frameworks that operates on and with the Oracle Financial Services Analytical Applications Data Model and form the array of components within the Infrastructure.

The OFSAA Infrastructure components/ frameworks are installed in two layers; primarily the metadata server and Infrastructure services run on one layer, and the UI and presentation logic runs on the other. The UI and presentation layer is deployed on any of the supported J2EE Servers.

Figure 1–1 depicts the various frameworks and capabilities that make up the OFSAA Infrastructure:

Figure 1–1 OFSAA Infrastructure Framework



1.4 OFSAA Infrastructure High Availability

The current release of the OFSAA Infrastructure supports only "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for the Database Server and/ or the Web Application Server clustering and deployment are supported in this release.

2

Understanding OFSAA Infrastructure Installation

This chapter provides a brief overview of OFSAA Infrastructure version 7.3.3.0.0 Installation.

This chapter includes the below topics:

- Installation Overview
- Hardware and Software Requirements and Specifications
- Verifying the System Environment
- Understanding Installation Modes

2.1 Installation Overview

This section gives an overview of the OFSAA Infrastructure Installation. Figure 2–1 shows the order of procedures you will need to follow:

Figure 2–1 OFSAA Infrastructure Installation Flowchart

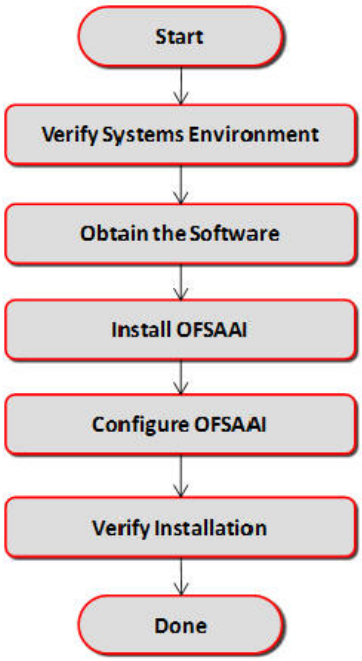


Table 2–1 provides additional information and links to specific documentation for each task in the flowchart.

Table 2–1 OFSAA Infrastructure Installation Tasks and Descriptions

Tasks	Details and Documentation
Verify Systems Environment	To verify that your system meets the minimum necessary requirements for installing and hosting the OFSAA Infrastructure, see "Hardware and Software Requirements and Specifications"and "Verifying the System Environment".
Obtain the software	See "Obtaining the software".
Install OFSAA Infrastructure	See "Installing OFSAA Infrastructure v 7.3.3.0.0".
Configure OFSAA Infrastructure	See "Post Installation Configuration".
Verify Installation	See "Verifying the Installation".

2.2 Hardware and Software Requirements and Specifications

This section describes the various Operating System, Database, Web Server, and Web Application Server version and other variant details on which this release of the OFSAA Infrastructure has been qualified.

Note: OFSAAI installation can be performed on both Virtual and Physical servers.

OFSAA Infrastructure components are qualified on the hardware and software variants given in Table 2–2. Other generic software, specific version and variant details are also mentioned in the table:

Table 2–2 Configurations Supported

Operating System	
Oracle Linux / Red Hat Enterprise Linux	▪ Oracle Linux Server release 5.3 up to 5.10 - 64 bit ▪ Oracle Linux Server release 6.0 and above - 64 bit **Note:** ▪ Same versions of RHEL is supported. ▪ Linux 6 is not supported for 6.x versions of EPM applications. That is, for the 6.x versions of ALM, FTP, PFT, PM TPC, and HM IFRS.
Oracle Solaris	▪ Oracle Solaris v5.10 Update 9 (9/10 s10s_u9wos_14a) SPARC sun4v - 64 bit ▪ Oracle Solaris v5.11
IBM AIX	▪ AIX 5.3 (ML 12*) - 64 bit ▪ AIX 6.1 (ML 07*) - 64 bit
Java Runtime Environment	
Oracle Linux / Red Hat Enterprise Linux Oracle Solaris	Oracle Java Runtime Environment (JRE) 1.6.0_25* - 64 bit

Table 2–2 (Cont.) Configurations Supported

IBM AIX	IBM AIX Runtime, Java Technology JRE 1.6.0 (SR10*) - 64 bit
Oracle Database Server and Client	
▪ Oracle Database Enterprise Edition Release 11.2.0.2.0* - 64 bit RAC/ Non-RAC with partitioning ▪ Oracle Client 11g R2 (11.2.0.2.0)* - 64 bit	
OLAP	
Oracle Hyperion Essbase	V 11.1.2.1.0 (Server and Client)
Oracle OLAP	V 11.2.0.2.0
Note: ▪ Oracle Hyperion Essbase & Oracle OLAP is required only if you are using the OLAP feature of OFSAAI. For Oracle OLAP, ensure that you have configured the Oracle Database server with OLAP option.	
Web Server/ Web Application Server	
Oracle Linux / Red Hat Enterprise Linux Oracle Solaris	▪ Oracle HTTP Server 11.1.1.1/ Apache HTTP Server 2.2.x ▪ Oracle WebLogic Server 10.3.5.0
IBM AIX	IBM HTTP Server/ IBM WebSphere Application Server 7.0.0.17* with IBM Java Runtime v1.6.0 (SR9 FP1) - 64 bit
Notes: ▪ OFSAA Infrastructure web component deployment on Oracle WebLogic Server 10.3.5.0 with Oracle JRockit 6 - R28.2.7 (1.6.0_45) - 64 bit is supported. ▪ OFSAA Infrastructure web component deployment on Apache Tomcat Server 7.0.19 with Java 1.6.0_25 - 64 bit is supported.	
Other Software	
Directory Services	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software like MS Active Directory.
Notes: ▪ Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Infrastructure LDAP Configuration. Open LDAP needs to be installed on MS Windows Server machine only.	
Desktop Requirements	
Operating System	MS Windows XP SP3/ Windows 7
Browser	▪ MS Internet Explorer 8/ 9 ▪ Oracle Java plug-in 1.6.0_21* **Note**: - Enable caching of static content (static files, images, CSS, etc).
Office Tools	▪ MS Office 2003/ 2007 ▪ Adobe Acrobat Reader 8 or above
Screen Resolution	1024*768 or 1280*1024
Multi Language Support (MLS)	See *Oracle Financial Services Analytical Applications Infrastructure Language Pack Guide* in the Related Documents section for desktop settings related to multi language support.

[1] * This indicates the latest version available at the time of the release. Any latest updates may be applied.

OFSAAI recommends the following software combinations for deployment:

Table 2–3 Recommended Software Combinations

Operating System	Database	Web Application Server	Web Server
Oracle Linux 5.3 up to 5.8/ 6.0 and above	Oracle Database 11g R2 (11.2.0.2.0)	Oracle WebLogic Server 10.3.5.0	Oracle HTTP Server/ Apache HTTP Server
Oracle Solaris 5.10/ 5.11	Oracle Database 11g R2 (11.2.0.2.0)	Oracle WebLogic Server 10.3.5.0	Oracle HTTP Server/ Apache HTTP Server
IBM AIX 5.3/ 6.1	Oracle Database 11g R2 (11.2.0.2.0)	IBM WebSphere Application Server 7.0.0.17	IBM HTTP Server/ Apache HTTP Server

2.3 Verifying the System Environment

To verify your system environment meets the minimum requirements for the installation, a Pre-Install Check utility is available within the Install Kit archive file. This utility can also be obtained separately by contacting Oracle Support.

Though the system environment verification is an integral and automated part of the installation of this software product, Oracle strongly recommends running this utility prior to beginning the installation as part of your organization's "Installation Readiness Verification Process".

Note: For more details on download and usage of this utility, see *Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide* given in the Related Documents section.

2.4 Understanding Installation Modes

OFSAA Infrastructure installation supports two modes of installation:

- **Silent Mode Installation** - Non GUI mode. This mode requires configuring the product xml files and following simple instructions at the command prompt.
- **Graphical User Interface (GUI) Mode Installation** - This mode launches the product installation in a GUI mode. Users need to enter the required information on various panels within the UI.

3

Preparing for Installation

This chapter provides necessary information to review before installing OFSAA Infrastructure v7.3.3.0.0 components. It includes the following topics:

- Installer and Installation Prerequisites
- Obtaining the software
- Common Installation Tasks

3.1 Installer and Installation Prerequisites

Table 3–1 mentions the list of prerequisites required before beginning the installation for OFSAA Infrastructure. The Installer/ EnvCheck utility will notify you if any requirements are not met.

Table 3–1 Prerequisite Information

Category	Sub-Category	Expected Value
Environment Settings	User Permission	■ User to have 755 permission on the directory identified for installation (`FIC_HOME`). **Note**: Required only in GUI mode. ■ User to have 755 permission on the `.profile` file
	Java Settings	■ PATH in `.profile` to be set to include the Java Runtime Environment absolute path. **Note**: Ensure the absolute path to `JRE/bin` is set at the beginning of PATH variable. For example, `PATH=/usr/java/jre1.6/bin:$ORACLE_HOME/bin:$PATH`
	Oracle Database Settings	■ TNS_ADMIN to be set in `.profile` pointing to appropriate `tnsnames.ora` file ■ ORACLE_HOME to be set in `.profile` pointing to appropriate Oracle Client installation ■ PATH in `.profile` to be set to include appropriate `$ORACLE_HOME/bin` path ■ ARBORPATH, ESSBASEPATH, HYPERION_HOME to be set in the `.profile` pointing to an appropriate Oracle Essbase Client installation. **Note**: These paths need to be specified only if you have set OLAP_SERVER_IMPLEMENTATION =1 in `OFSAAIInstallConfig.xml` file. (1 indicates OLAP implementation is enabled, that is, if you use Oracle Essbase as the multi-dimensional database for analytical processing.)
OS/ File System Settings	File Descriptor Settings	Greater than 9216
	Total Number of Process Settings	Greater than 4096
	JDBC Driver	Oracle JDBC Thin Driver v3.0 exists in the path identified for ABS_DRIVER_PATH of `OFSAAIInstallConfig.xml`
	Port Settings	Default port numbers to be enabled on the system are 6500, 6501, 6505, 6507, 6509, 6510, 6666, 9999, and 10101.
	Time Zone	If OS is Solaris 11, set the environment variable TZ to a valid time zone region. For example, export TZ=Asia/Calcutta.
	Staging Area/ Metadata Repository	■ A directory to hold the application metadata artifacts and additionally act as staging area. ■ The directory should exist on the same system as the OFSAA Infrastructure (can be on different mount). ■ User to have 777 permission on this folder.

Table 3–1 (Cont.) Prerequisite Information

Category	Sub-Category	Expected Value
Database Settings	Database Instance Settings	▪ NLS_CHARACTERSET to be AL32UTF8 ▪ NLS_LENGTH_SEMANTICS to be CHAR ▪ OPEN CURSORS limit to be greater than 1000 ▪ Minimum 500MB quota on DEFAULT TABLESPACE for CONFIG user.
	Database User/ Schema	▪ One DB User identified for holding configuration and metadata repository. Usually referred to as CONFIG user/ schema ▪ Optionally two DB Users identified for holding the Sample App data model/ data (referred as ATOMIC user/ schema) and Sandbox schema if you decide to install the Sample App. **Note**: The required privileges need to be granted to these DB schemas by executing `privileges_atomic_user.sql` and `privileges_config_user.sql` files appropriately, present inside the `OFSAAI_73300_`<OS> folder.
Web Server	WebSphere/ WebLogic	WebSphere profile or WebLogic domain should have been created. You will be prompted to enter the WebSphere installation path or WebLogic domain home directory during OFSAAI installation. For more information, see Creation of New Profile in WebSphere and Creating Domain in WebLogic Server sections.

3.2 Obtaining the software

This release of OFSAA Infrastructure v7.3.3.0.0 can be downloaded from the Oracle Software Delivery Cloud(`https://edelivery.oracle.com`). You need to have a valid Oracle account in order to download the software.

3.3 Common Installation Tasks

3.3.1 Identifying the Installation Directory

This would typically be the user HOME directory and will require to hold the below files/ directory:

- Product Installer File (Archive) - To be copied.
- Product Installation Directory (FIC_HOME) - To be created prior to installation if the installation is in GUI mode.
- Product Staging and Metadata Repository Directory - To be created prior to installation. This is also referred as FTPSHARE.

> **Note:** You can identify any other installation directory, provided the user permission set on it is 755.

3.3.2 Configuration for GUI Mode Installation

To install this product in GUI mode, you need to ensure the below software and configurations are available:

- Install and configure any PC X Server software such as Open Text Exceed (formerly Hummingbird Exceed) on the user desktop system from which the installation is triggered.
- Configure DISPLAY variable.

  Ensure to set the DISPLAY variable (in user `.profile`) on the system on which the OFSAAI will be installed, to point to the user desktop system where the PC X Server software has been installed.

  Syntax:

  ```
  export DISPLAY = hostname:n
  ```

  where hostname is the IP Address/ Host Name of the user desktop system and n is the sequence number (usually 0).

  For example, `10.11.12.13:0` or `myhostname:0`

3.3.3 Copying and Extracting the Software

Once you obtain the installer, copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.

> **Note:** You must be logged in to the UNIX operating system as a non-root user.

1. Download the unzip utility (OS specific) `unzip_<os>.Z` from the location https://updates.oracle.com/unzips/unzips.html, and copy it in Binary mode to the directory that is included in your PATH variable, typically `$HOME` path on the system on which the OFSAA Infrastructure components will be installed. If you already have the unzip utility to extract the contents of the downloaded archive, skip to the next step.
2. Uncompress the unzip installer file using the command:

   ```
   uncompress unzip_<os>.Z
   ```

   > **Note:** In case you notice an error message "uncompress: not found [No such file or directory]" when the package is not installed, contact your UNIX administrator.

3. Give EXECUTE permission to the file using the command:

   ```
   chmod 751 unzip_<OS>
   ```

   For example, `chmod 751 unzip_sparc`
4. Extract the contents of the OFSAAI 7.3.3.0.0 installer file using the following command:

   ```
   unzip OFSAAI_73300_<OS>.zip
   ```

5. Give EXECUTE permission to the installer script. Navigate to the path `OFSAAI_73300_<OS>` and execute the command:

   ```
   chmod 755 setup.sh
   ```

Part II

Installation and Configuration

Part II details the installation and post installation configurations steps. Part II covers the following chapters:

- Chapter 4, "Installing OFSAA Infrastructure v 7.3.3.0.0"
- Chapter 5, "Post Installation Configuration"

  Chapter 6, "Start / Stop Infrastructure Services"
- Chapter 7, "Verifying the Installation"

4

Installing OFSAA Infrastructure v 7.3.3.0.0

Follow the instructions in this chapter to install the OFSAA Infrastructure depending on the mode of installation. This chapter includes the following sections:

- Silent Mode Installation
- GUI Mode Installation

4.1 Silent Mode Installation

Note: Ensure you have followed the steps as mentioned in the Copying and Extracting the Software section prior to proceeding with the next steps.

4.1.1 Configuring OFSAAI_InstallConfig.xml and OFSAAI_PostInstallConfig.xml

1. Log in to the system as non-root user.
2. Navigate to the directory **OFSAAI _73300_<OS>** and locate the **OFSAAI_InstallConfig.xml** and **OFSAAI_PostInstallConfig.xml** files.
3. Configure the **OFSAAI_InstallConfig.xml** and **OFSAAI_PostInstallConfig.xml** files with appropriate details prior to triggering the installation. For details on how to configure these files see Appendix A.

4.1.2 Running the installer in Silent Mode

To install the OFSAA Infrastructure in Silent mode, execute the below command:

```
./setup.sh SILENT
```

4.1.3 Completing the installation in Silent Mode

On launching the installer in silent mode, the environment check utility is executed. Enter the required information to execute the utility as explained below:

Table 4–1 Silent Mode Installation-1

Console Prompts	User Inputs
Please enter OFSAAI CONFIG Schema user name	Enter the user name for OFSAAI configuration schema.
Please enter password	Enter the configuration schema password
Please enter Oracle SID/ SERVICE name	Enter the SID or service name of the Oracle database instance.
The status of each checks performed by the utility is displayed as shown in Figure 4–1. If the status of the utility is Success, it proceeds with the installation.	

Figure 4–1 *Silent Mode Installation-Environment check*

```
$ ls
Error Code.xlsx              OFSAAI_PostInstallConfig.xml  envCheck.sh                privileges_atomic_user.sql
MyResources_en_US.properties OFSAAInfrastructure.bin       log4j.xml                  privileges_config_user.sql
OFSAAI_InstallConfig.xml     VerInfo.txt                   preinstallcheck.sh         setup.sh
$ ./setup.sh SILENT
Environment check utility started...
=============================================================
Java Validation Started ...
 Java found in : /webserver/jdk1.6.0_25/bin/sparcv9
 JAVA Version found : 1.6.0_25
 JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
=============================================================
Environment Variables Validation Started ...
 ORACLE_HOME : /oracle/oracle11g_client/product/11.2.0/client_1
 TNS_ADMIN : /oracle/oracle11g_client/product/11.2.0/client_1/network/admin
Environment Variables Validation Completed. Status : SUCCESS
=============================================================
OS specific Validation Started ...
 Unix shell found : /usr/bin/ksh. Status : SUCCESS
 Hardware Architecture - SPARC. Status : SUCCESS
 OS version : 5.10. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
=============================================================
DB specific Validation Started ...
 Please enter OFSAAI CONFIG schema user name:
SOLL11
 Please enter password:
 Please enter Oracle SID/SERVICE name:
PQADB
 Oracle Client version : 11.2.0.2.0. Status : SUCCESS
 CREATE SESSION has been granted to user. Status : SUCCESS
 CREATE PROCEDURE has been granted to user. Status : SUCCESS
 CREATE VIEW has been granted to user. Status : SUCCESS
 CREATE TRIGGER has been granted to user. Status : SUCCESS
 CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
 CREATE TABLE has been granted to user. Status : SUCCESS
 CREATE SEQUENCE has been granted to user. Status : SUCCESS
 SELECT privilege is granted for V_$nls_parameters view. Current value : SELECT. Status : SUCCESS
 NLS_LENGTH_SEMANTICS : CHAR. Current value : CHAR. Status : SUCCESS
 NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
 SELECT privilege is granted for V_$parameter view. Current value : SELECT. Status : SUCCESS
 Open cursor value is greater than 1000. Current value : 1000. Status : SUCCESS
 Oracle Database Partitioning feature is enabled. Current value : Partitioned. Status : SUCCESS
 SELECT privilege is granted for USER_TS_QUOTAS view. Current value : SELECT. Status : SUCCESS
 Schema is granted with at least 500 MB table space. Current value : Unlimited. Status : SUCCESS
 Oracle Server version Current value : 11.2.0.3.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
=============================================================
Environment check utility Status : SUCCESS
=============================================================
```

Table 4–2

Console Prompts	User Inputs
Please enter Infrastructure configuration schema password	Enter the configuration schema password.
Please enter Infrastructure FTP/SFTP password	Enter the password to access Product Staging/Metadata repository directory in the application server. **Note**: During installation stage, you need to enter the config schema password again.

The OFSAAI License Agreement is displayed as shown in Figure 4–2.

Figure 4–2 *Silent Mode Installation-OFSAAUI License Agreement*

Please enter Infrastructure configuration schema password:
Please enter Infrastructure FTP/SFTP password :
Welcome to OFSAAI Installation...
OFSAAI License Agreement
* Warning: This Software System is protected by International copyright laws. *
* Unauthorized reproduction or distribution of this Software System, or any *
* portion of it, may result in severe civil and criminal penalties and will be *
* prosecuted to the maximum extent possible under the Law. *

Table 4–3

Console Prompts	User Inputs
Are you accepting the terms and conditions mentioned above? [Y/N]	Enter **Y** if you accept the license agreement and want to proceed with installation.
Please enter password for default Infrastructure administrator user SYSADMN	Enter the password for the System Administrator.
Please re-enter password for default Infrastructure administrator user SYSADMN	Enter the same password again to confirm its validity.
Please enter password for default Infrastructure authorizer user SYSAUTH	Enter the password for the System Authorizer.
Please enter password for default Infrastructure authorizer user SYSAUTH	Enter the same password again to confirm its validity.

Note: SYSADMN and SYSAUTH are the two default OFSAAI administrative users created.

Figure 4–3 *Silent Mode Installation-Installing*

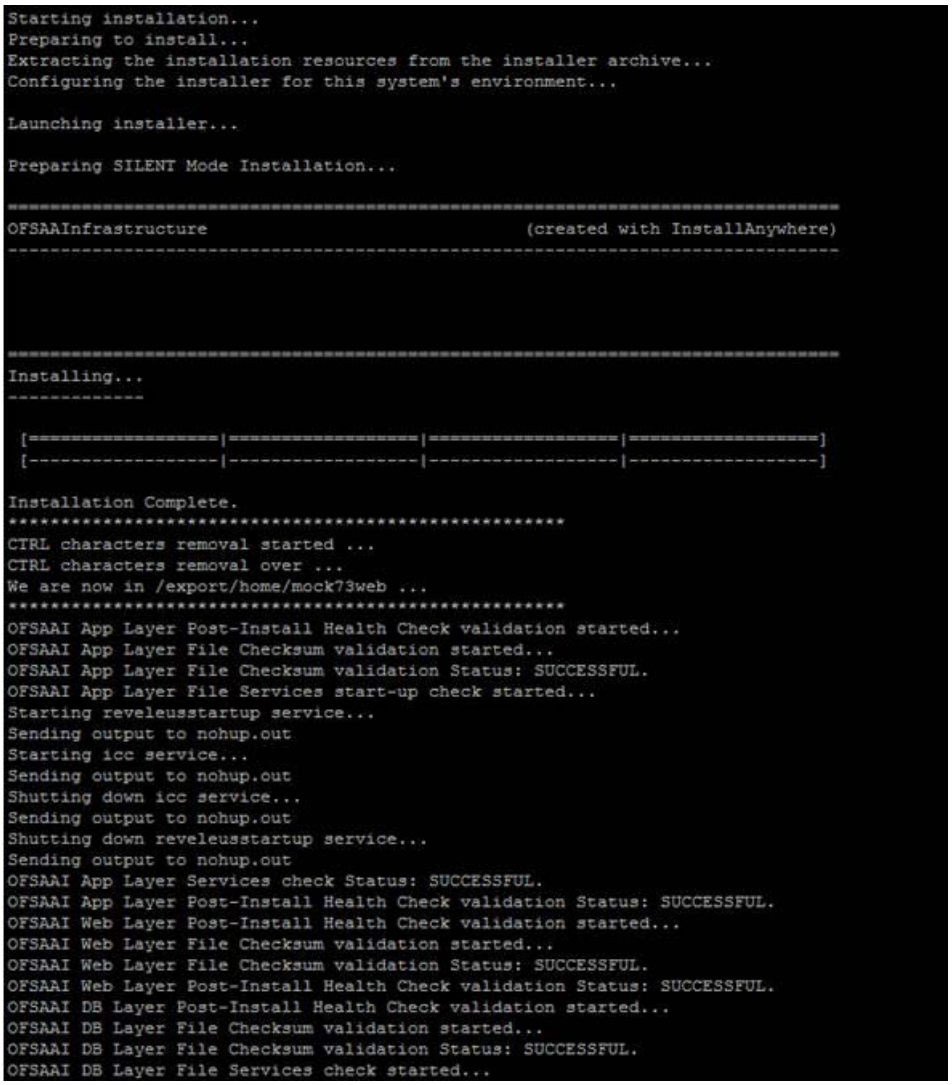

Starting installation...
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing SILENT Mode Installation...
OFSAAInfrastructure (created with InstallAnywhere)
Installing...
Installation Complete.
CTRL characters removal started ...
CTRL characters removal over ...
We are now in /export/home/mock73web ...
OFSAAI App Layer Post-Install Health Check validation started...
OFSAAI App Layer File Checksum validation started...
OFSAAI App Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI App Layer File Services start-up check started...
Starting reveleusstartup service...
Sending output to nohup.out
Starting icc service...
Sending output to nohup.out
Shutting down icc service...
Sending output to nohup.out
Shutting down reveleusstartup service...
Sending output to nohup.out
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI App Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation started...
OFSAAI Web Layer File Checksum validation started...
OFSAAI Web Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation started...
OFSAAI DB Layer File Checksum validation started...
OFSAAI DB Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI DB Layer File Services check started...

Figure 4–4 *Silent Mode Installation-Post Install Health Check*

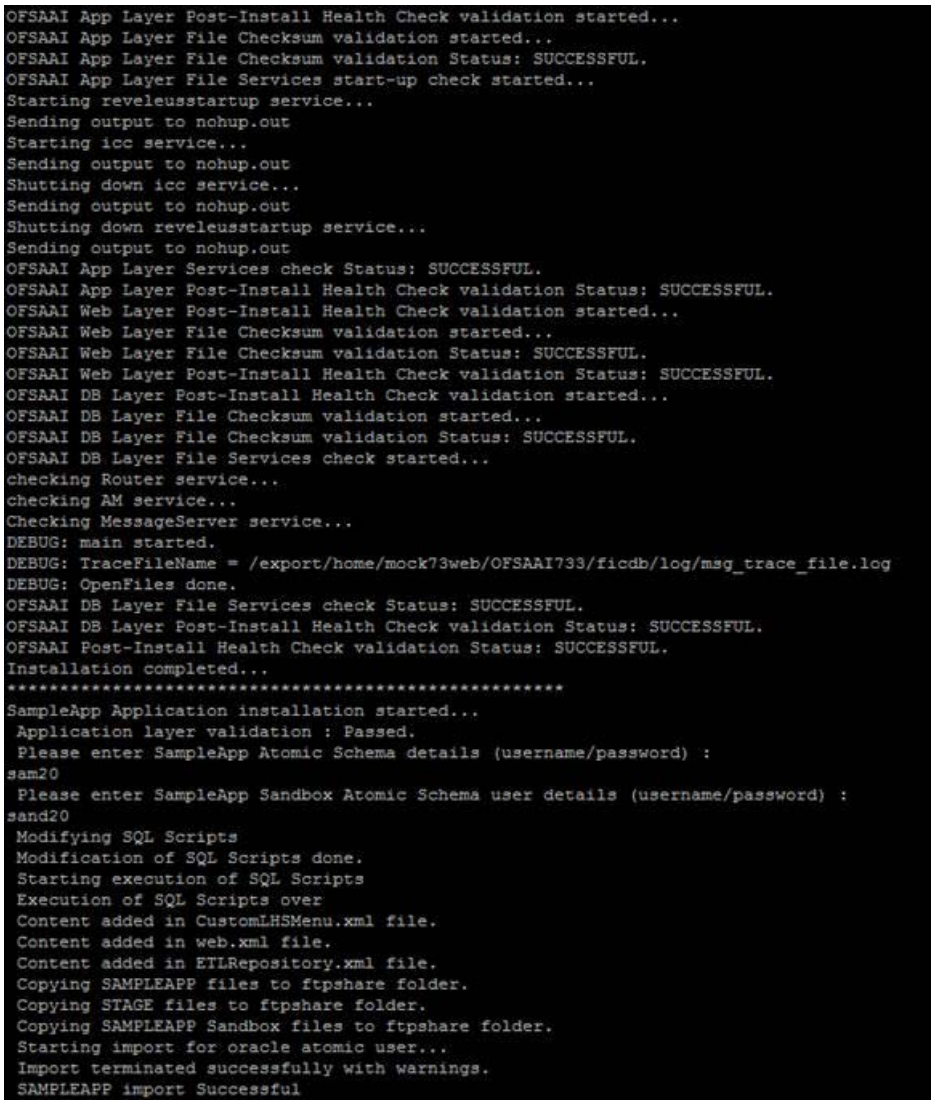
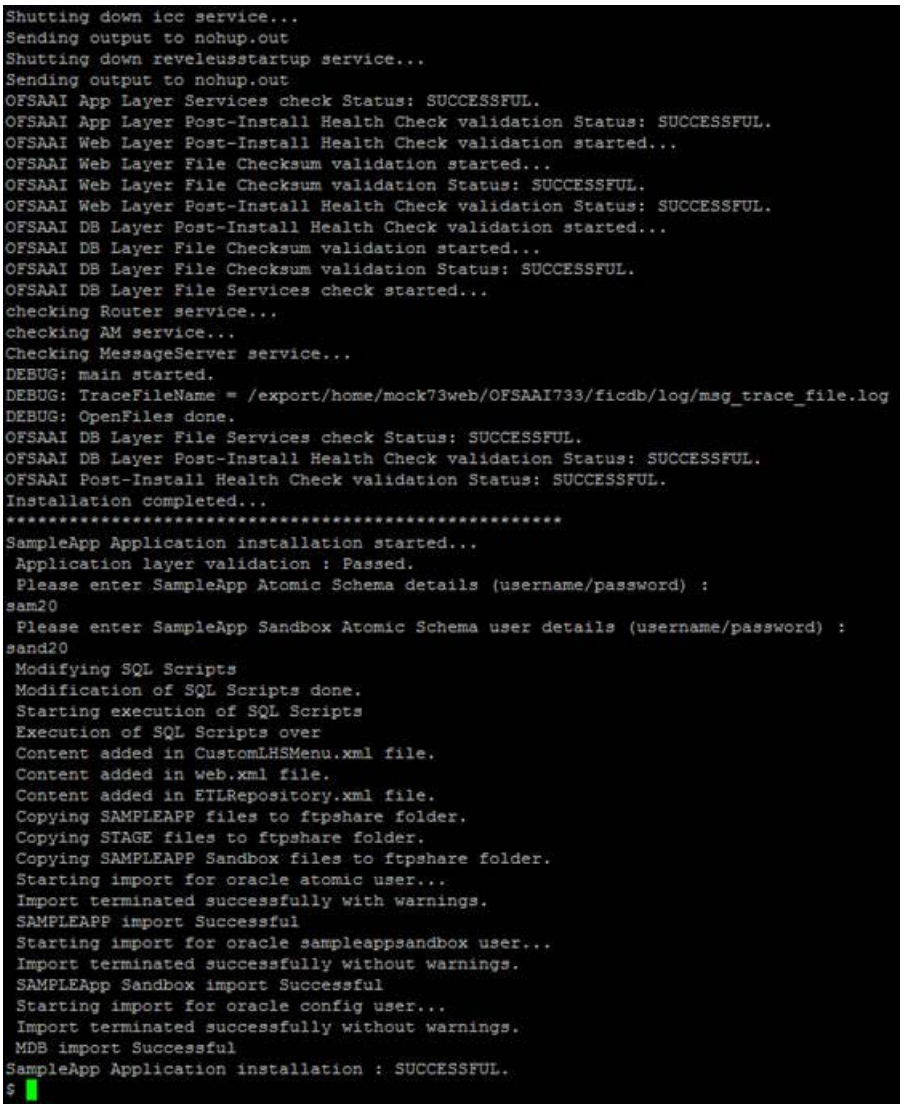

OFSAAI App Layer Post-Install Health Check validation started...
OFSAAI App Layer File Checksum validation started...
OFSAAI App Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI App Layer File Services start-up check started...
Starting reveleusstartup service...
Sending output to nohup.out
Starting icc service...
Sending output to nohup.out
Shutting down icc service...
Sending output to nohup.out
Shutting down reveleusstartup service...
Sending output to nohup.out
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI App Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation started...
OFSAAI Web Layer File Checksum validation started...
OFSAAI Web Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation started...
OFSAAI DB Layer File Checksum validation started...
OFSAAI DB Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI DB Layer File Services check started...
checking Router service...
checking AM service...
Checking MessageServer service...
DEBUG: main started.
DEBUG: TraceFileName = /export/home/mock73web/OFSAAI733/ficdb/log/msg_trace_file.log
DEBUG: OpenFiles done.
OFSAAI DB Layer File Services check Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Post-Install Health Check validation Status: SUCCESSFUL.
Installation completed...
****
SampleApp Application installation started...
Application layer validation : Passed.
Please enter SampleApp Atomic Schema details (username/password) :
sam20
Please enter SampleApp Sandbox Atomic Schema user details (username/password) :
sand20
Modifying SQL Scripts
Modification of SQL Scripts done.
Starting execution of SQL Scripts
Execution of SQL Scripts over
Content added in CustomLHSMenu.xml file.
Content added in web.xml file.
Content added in ETLRepository.xml file.
Copying SAMPLEAPP files to ftpshare folder.
Copying STAGE files to ftpshare folder.
Copying SAMPLEAPP Sandbox files to ftpshare folder.
Starting import for oracle atomic user...
Import terminated successfully with warnings.
SAMPLEAPP import Successful

Figure 4–5 *Silent Mode Installation-Sample Application installation*


Shutting down icc service...
Sending output to nohup.out
Shutting down reveleusstartup service...
Sending output to nohup.out
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI App Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation started...
OFSAAI Web Layer File Checksum validation started...
OFSAAI Web Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation started...
OFSAAI DB Layer File Checksum validation started...
OFSAAI DB Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI DB Layer File Services check started...
checking Router service...
checking AM service...
Checking MessageServer service...
DEBUG: main started.
DEBUG: TraceFileName = /export/home/mock73web/OFSAAI733/ficdb/log/msg_trace_file.log
DEBUG: OpenFiles done.
OFSAAI DB Layer File Services check Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Post-Install Health Check validation Status: SUCCESSFUL.
Installation completed...
****
SampleApp Application installation started...
Application layer validation : Passed.
Please enter SampleApp Atomic Schema details (username/password) :
sam20
Please enter SampleApp Sandbox Atomic Schema user details (username/password) :
sand20
Modifying SQL Scripts
Modification of SQL Scripts done.
Starting execution of SQL Scripts
Execution of SQL Scripts over
Content added in CustomLHSMenu.xml file.
Content added in web.xml file.
Content added in ETLRepository.xml file.
Copying SAMPLEAPP files to ftpshare folder.
Copying STAGE files to ftpshare folder.
Copying SAMPLEAPP Sandbox files to ftpshare folder.
Starting import for oracle atomic user...
Import terminated successfully with warnings.
SAMPLEAPP import Successful
Starting import for oracle sampleappsandbox user...
Import terminated successfully without warnings.
SAMPLEApp Sandbox import Successful
Starting import for oracle config user...
Import terminated successfully without warnings.
MDB import Successful
SampleApp Application installation : SUCCESSFUL.
$

.

4.2 GUI Mode Installation

> **Note:** Ensure you have followed the steps as mentioned in the Configuration for GUI Mode Installation section prior to proceeding with the next steps.

1. Log in to the system as non-root user.
2. Identify a directory for installation and set the same in the `user .profile` file as below:

   ```
   set FIC_HOME=<ofsaa_install_dir>
   ```

   ```
   export FIC_HOME
   ```

3. Execute the user `.profile`.
4. Run the installer in GUI Mode:

   ```
   ./setup.sh GUI
   ```

5. Enter the OFSAAI Config schema user name, password, and Oracle SID/Service name when prompted as shown in the following figure.

Figure 4–6 *Validating the installation*

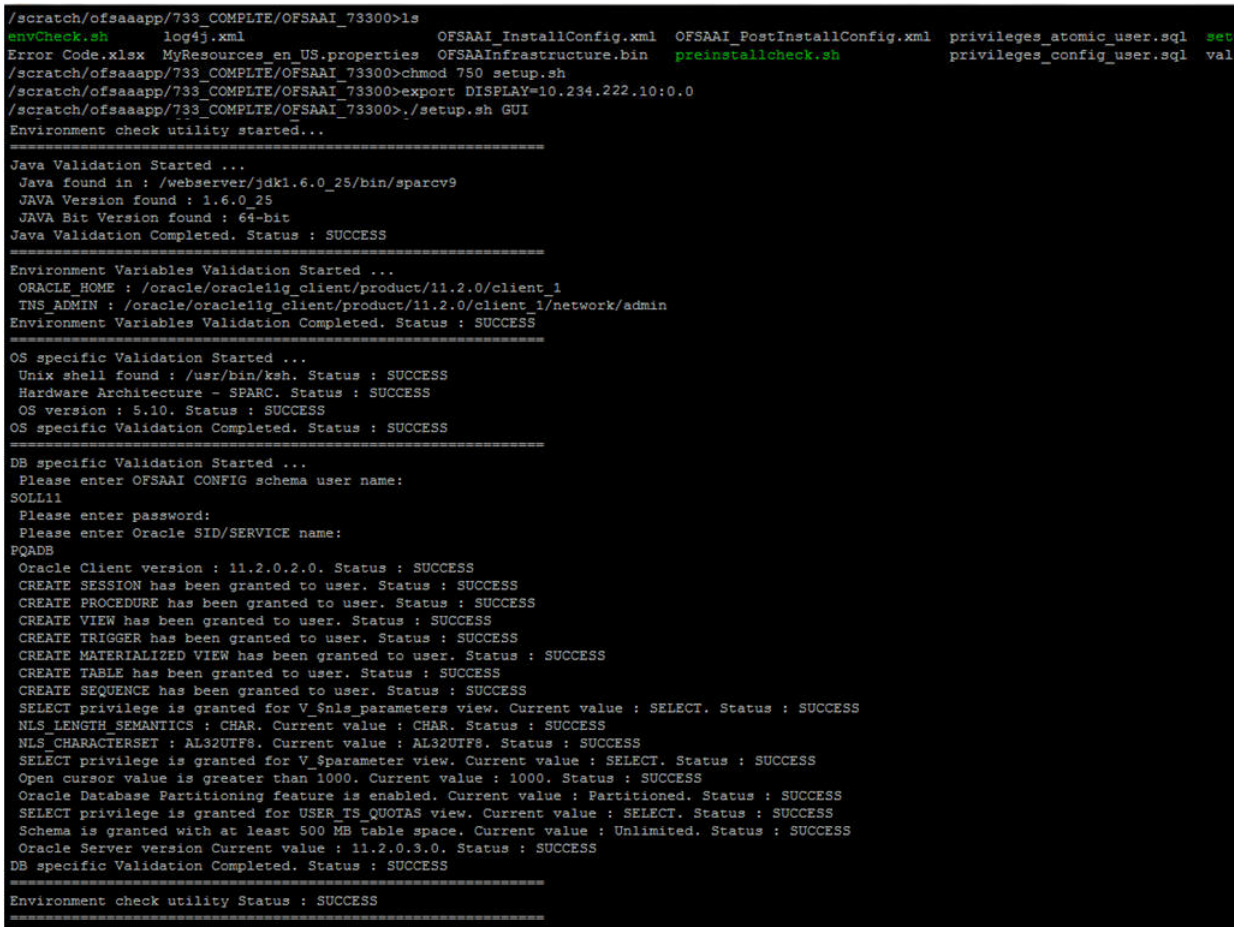

/scratch/ofsaaapp/733_COMPLTE/OFSAAI_73300>ls
envCheck.sh log4j.xml OFSAAI_InstallConfig.xml OFSAAI_PostInstallConfig.xml privileges_atomic_user.sql
Error Code.xlsx MyResources_en_US.properties OFSAAInfrastructure.bin preinstallcheck.sh privileges_config_user.sql
/scratch/ofsaaapp/733_COMPLTE/OFSAAI_73300>chmod 750 setup.sh
/scratch/ofsaaapp/733_COMPLTE/OFSAAI_73300>export DISPLAY=10.234.222.10:0.0
/scratch/ofsaaapp/733_COMPLTE/OFSAAI_73300>./setup.sh GUI
Environment check utility started...
Java Validation Started ...
Java found in : /webserver/jdk1.6.0_25/bin/sparcv9
JAVA Version found : 1.6.0_25
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
Environment Variables Validation Started ...
ORACLE_HOME : /oracle/oracle11g_client/product/11.2.0/client_1
TNS_ADMIN : /oracle/oracle11g_client/product/11.2.0/client_1/network/admin
Environment Variables Validation Completed. Status : SUCCESS
OS specific Validation Started ...
Unix shell found : /usr/bin/ksh. Status : SUCCESS
Hardware Architecture - SPARC. Status : SUCCESS
OS version : 5.10. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
DB specific Validation Started ...
Please enter OFSAAI CONFIG schema user name:
SOLL11
Please enter password:
Please enter Oracle SID/SERVICE name:
PQADB
Oracle Client version : 11.2.0.2.0. Status : SUCCESS
CREATE SESSION has been granted to user. Status : SUCCESS
CREATE PROCEDURE has been granted to user. Status : SUCCESS
CREATE VIEW has been granted to user. Status : SUCCESS
CREATE TRIGGER has been granted to user. Status : SUCCESS
CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
CREATE TABLE has been granted to user. Status : SUCCESS
CREATE SEQUENCE has been granted to user. Status : SUCCESS
SELECT privilege is granted for V_$nls_parameters view. Current value : SELECT. Status : SUCCESS
NLS_LENGTH_SEMANTICS : CHAR. Current value : CHAR. Status : SUCCESS
NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
SELECT privilege is granted for V_$parameter view. Current value : SELECT. Status : SUCCESS
Open cursor value is greater than 1000. Current value : 1000. Status : SUCCESS
Oracle Database Partitioning feature is enabled. Current value : Partitioned. Status : SUCCESS
SELECT privilege is granted for USER_TS_QUOTAS view. Current value : SELECT. Status : SUCCESS
Schema is granted with at least 500 MB table space. Current value : Unlimited. Status : SUCCESS
Oracle Server version Current value : 11.2.0.3.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
Environment check utility Status : SUCCESS

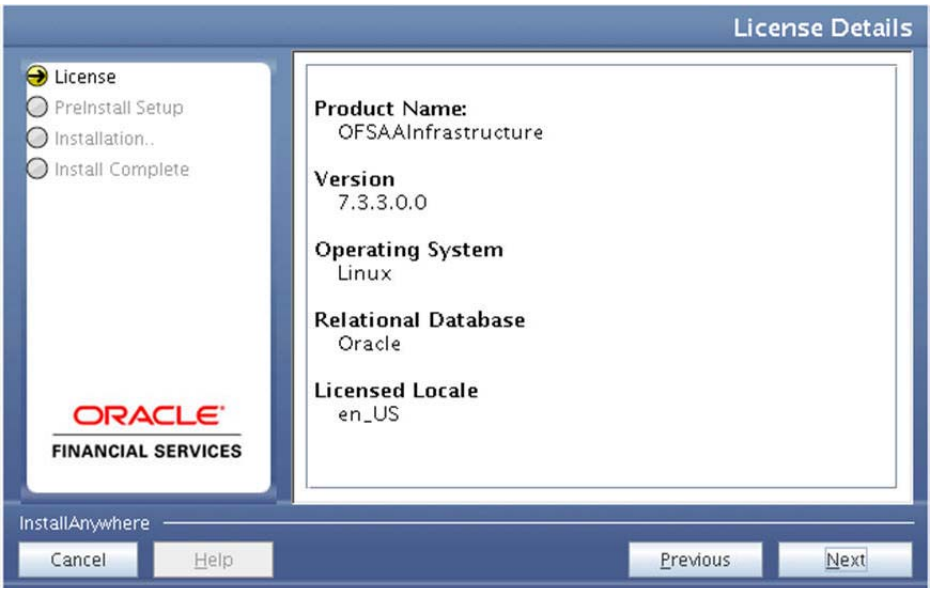
Figure 4–7 *Initialization Window*

Figure 4–8 *License Agreement*

License Agreement
License
PreInstall Setup
Installation..
Install Complete
ORACLE
FINANCIAL SERVICES
Welcome to the OFSAAI Installation
This program will guide you through the installation of OFSAA Infrastructure.
Copyright © 1993, 2014, Oracle and / or its affiliates. All rights reserved.
This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute,
I accept the terms of the License Agreement
I do NOT accept the terms of the License Agreement
InstallAnywhere
Cancel
Help
Previous
Next

6. Select the **I accept the terms if the License Agreement** option and click **Next**. The *License Details* window is displayed.

Figure 4–9 *License Details*

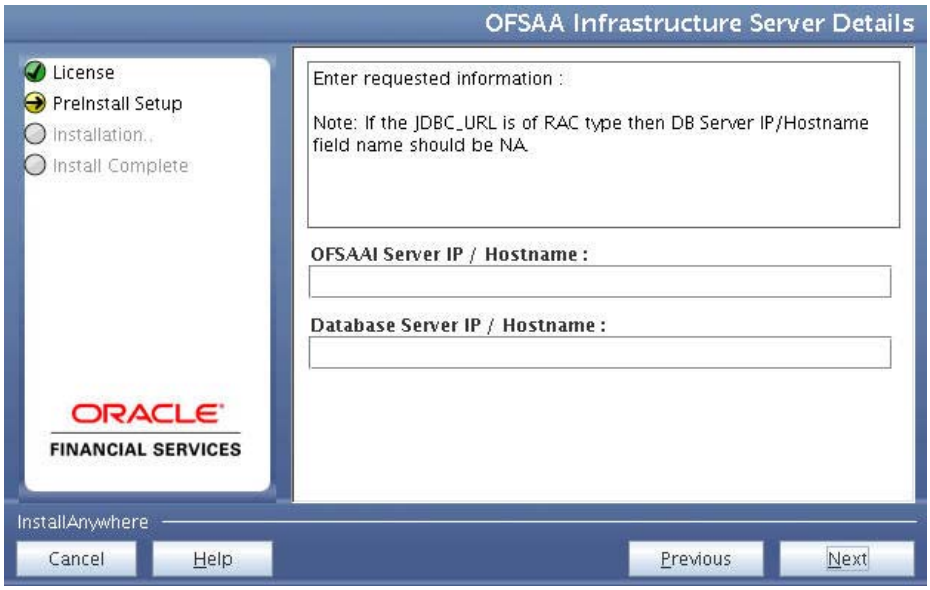


7. Click **Next**. The *User Installation Directory* window is displayed.

Figure 4–10 *User Installation Directory*

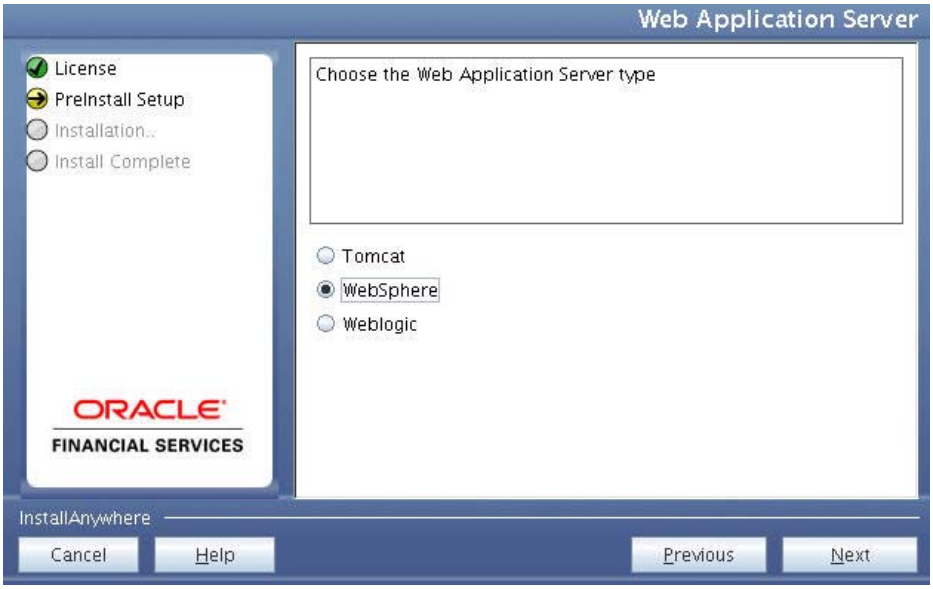
8. Enter the installation directory path. This is the directory you have set in the user `.profile` file in step 2.
9. Click **Next**. The *OFSAA Infrastructure Server Details* window is displayed.

Figure 4–11 *OFSAA Infrastructure Server Details*



10. Enter the IP address or hostname of the OFSAAI server and Database server.
11. Click **Next**. The *Web Application Server* window is displayed.

Figure 4–12 *Web Application Server*



12. Select the appropriate Web Application server type. The options are Tomcat, WebSphere and WebLogic.
13. Click **Next**. Based on the selection, corresponding screens are displayed.

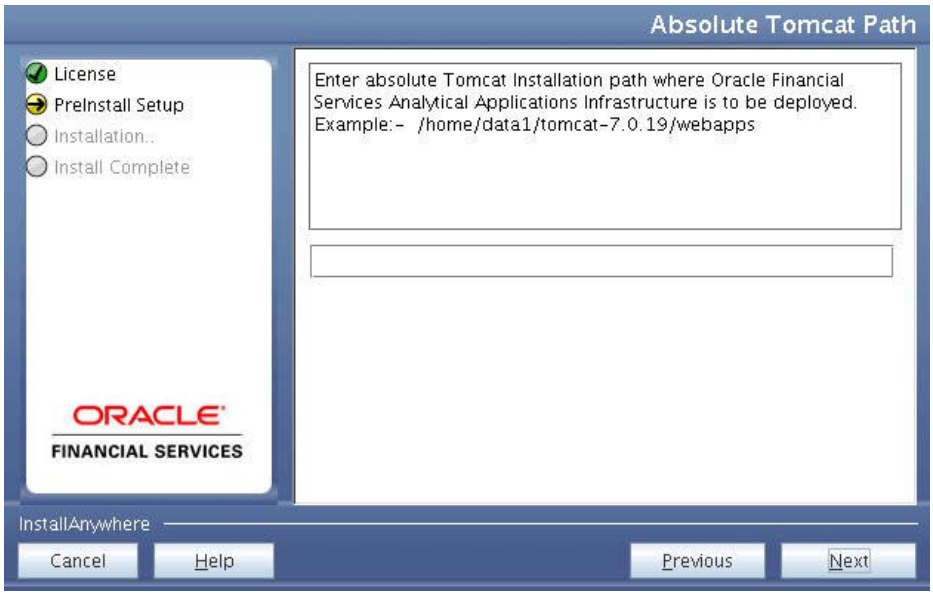
For WebSphere: The *WebSphere Setup Details* window is displayed.

Figure 4–13 *WebSphere Setup Details*

- Enter the installation path (up to the host name directory) of the WebSphere. The format is `WebSphere path <WebSphere profile directory>/installedApps/<NodeCellName>`.

For Tomcat: The *Absolute Tomcat Path* window is displayed.

Figure 4–14 *Absolute Tomcat Path*



- Enter the Tomcat installation path (till /webapps) where OFSAAI will be deployed.

For WebLogic: The *Weblogic Home* window is displayed

Figure 4–15 *Weblogic Home*

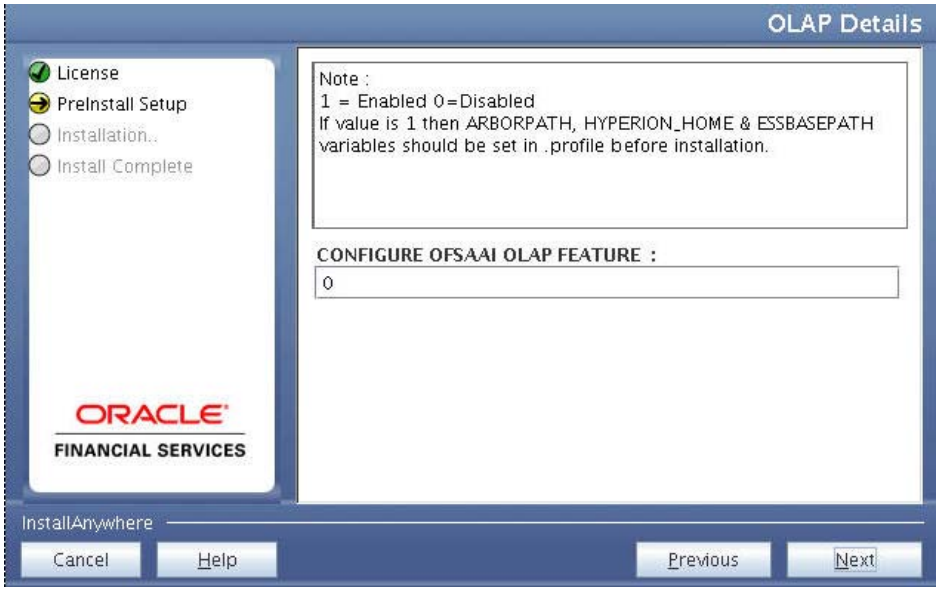
- Enter the WebLogic home directory path.

Figure 4–16 *Weblogic Setup Details*

- Enter the path of the Weblogic domain home directory and click **Next**.

The *OLAP Details* window is displayed.

Figure 4–17 *OLAP Details*

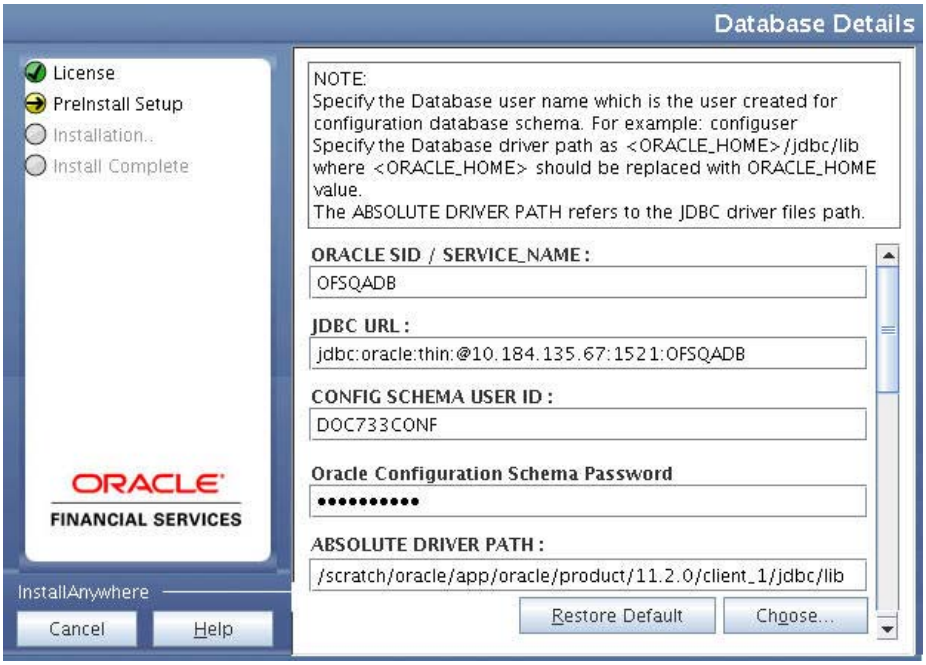


14. Enter 1 if you want to configure OFSAAI OLAP feature. By default, 0 is displayed.
15. Click **Next**. The *Web Server Details* window is displayed.

Figure 4–18 *Web Server Details*

16. Select the **Enable HTTPS** checkbox to configure HTTPS.
17. Enter Web Server (HTTP Server) Port, Web App Server (HTTP Server) IP address, context name for deployment and the local path to any folder on the Web Application Server (Tomcat/ Websphere/ Weblogic).
18. Click **Next**. The *Database Details* window is displayed.

Figure 4–19 *Database Details*

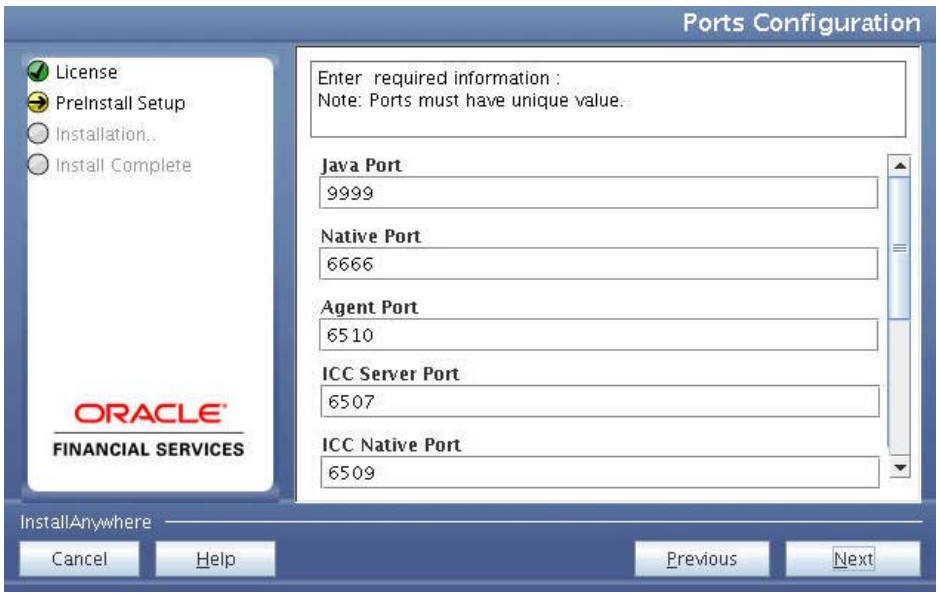


19. Enter Oracle SID/Service Name, JDBC URL, Configuration Schema User ID and Password, and Absolute Driver Path.

> **Note:** Absolute Driver Path can be the path where Oracle DB client is installed or JDBC driver is installed. For example, /scratch/oracle/app/oracle/product/11.2.0/client_1/jdbc/lib

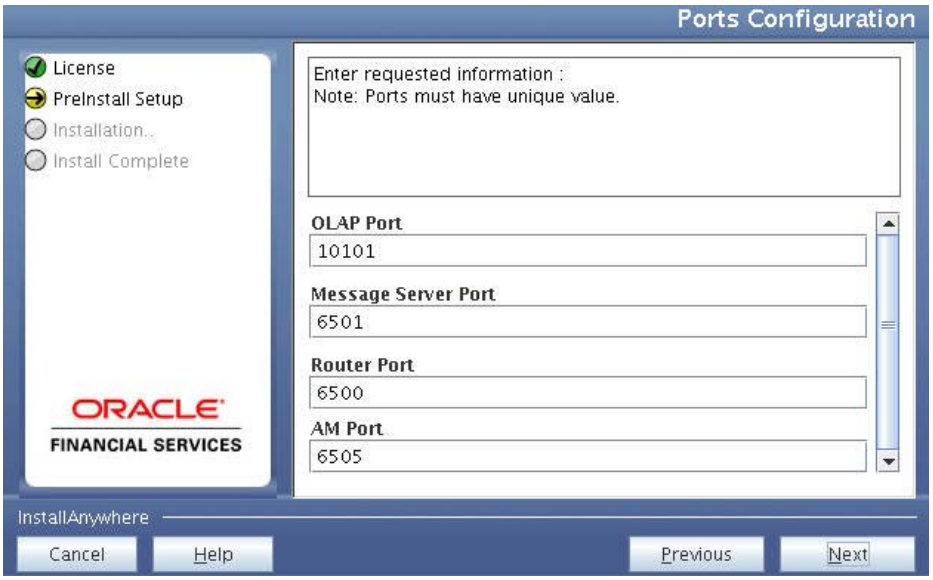
20. Click **Next**. The *Ports Configuration* window is displayed.

Figure 4–20 *Ports Configuration*



21. Enter Java Port, Native Port, Agent Port, ICC Server Port, and ICC Native Port. You can proceed with the defaut port values configured.
22. Click **Next**. The *Ports Configuration* window is displayed.

Figure 4–21 *Ports Configuration*

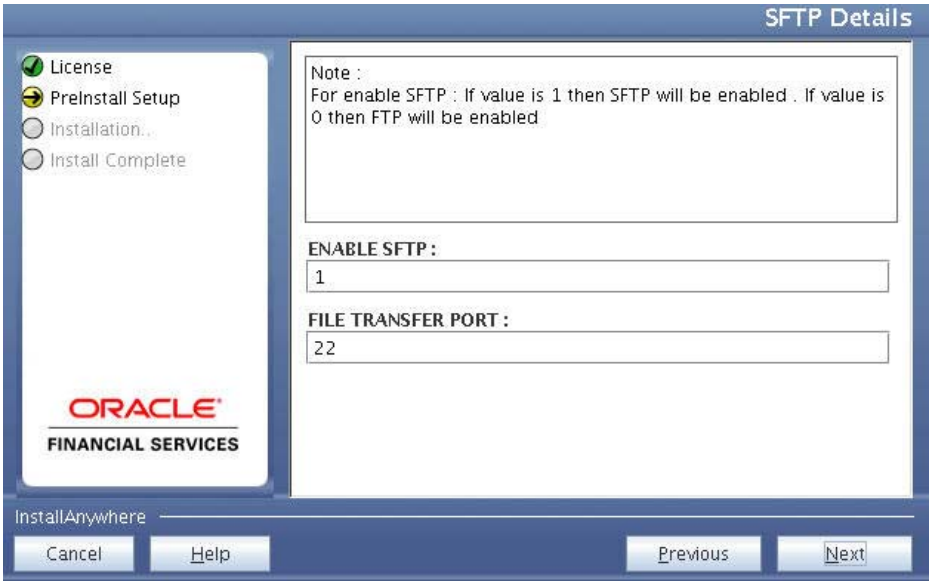


23. Enter OLAP Port, Message Server Port, Router Port, and AM Port.
24. Click **Next**. The *Default Infrastructure Administrator and Authorizer User Password* window is displayed.

Figure 4–22 *Default Infrastructure Administrator and Authorizer User Password*

25. Enter the passwords for default System Administrator and System Authorizer users.
26. Click **Next**. The *SFTP Details* window is displayed.

Figure 4–23 *SFTP Details*



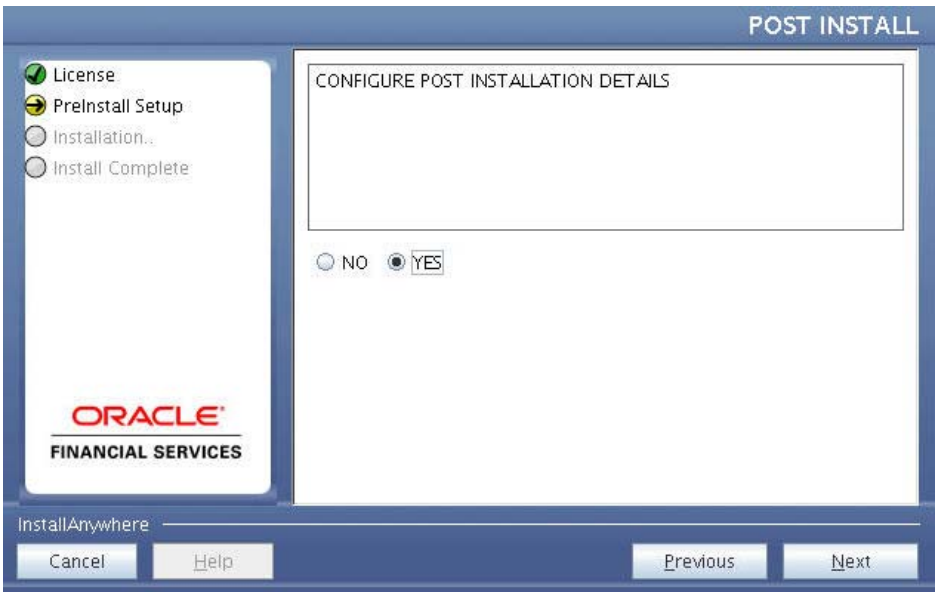
27. Enter 1 to enable SFTP or 0 to enable FTP.

> **Note:** Ensure the system on which the OFSAA Infrastructure is being installed, has either FTP/ SFTP enabled.

28. Enter the port to be used for file transfer.

29. Click **Next**. The *Post Install* window is displayed.

Figure 4–24 *Post Install*



30. Select **Yes** if you want to do the post installation configuration after installing OFSAA Infrastructure.

31. Click **Next**. The *OFSAAI Post Install Details* window is displayed.

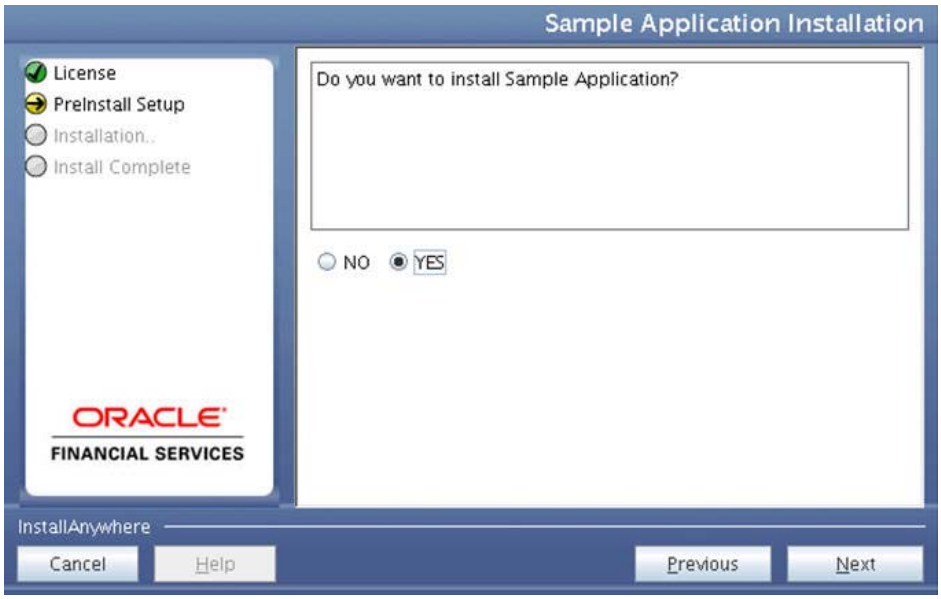
Figure 4–25 *OFSAAI Post Install Details*

32. Enter the path of the ftpshare directory and the User Id and password for OFSAAI Server.

> **Note:** The transfer of data (files) between the OFSAAI Server and the Web Application Server happens over FTP/ SFTP. Ensure the necessary host configurations are made for a successful handshake.

33. Click **Next**. The *Sam*ple *Application Installation* window is displayed.

Figure 4–26 *Sam*ple *Application Installation*

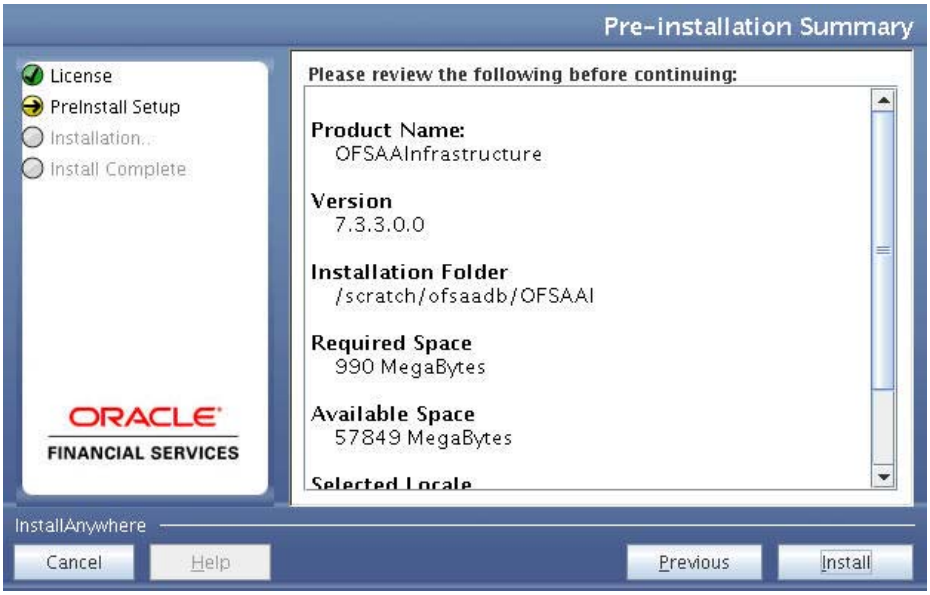


34. Select **Yes** if you want to install Sample Application.

> **Note:** Ensure the appropriate DB schemas are created for holding the Sample Application data. See Database User/ SchemaDatabase User/ Schema Database User/ Schema section.

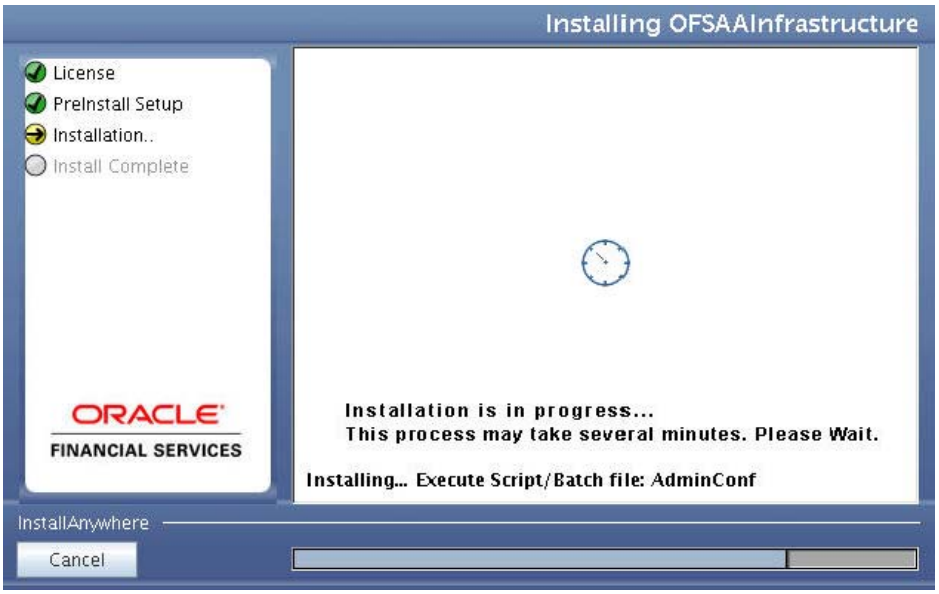
35. Click **Next**. The *Pre Installation Summary* window is displayed.

Figure 4–27 *Pre Installation Summary*



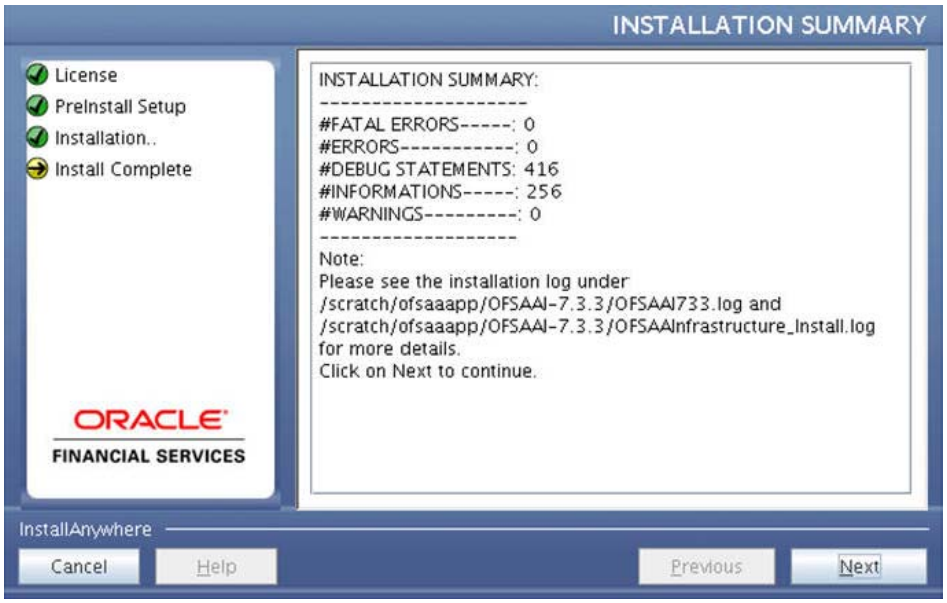
36. Click **Install**. The *Installing OFSAA Infrastructure* window is displayed.

Figure 4–28 *Installing OFSAA Infrastructure*



Anytime during the installation you can click **Cancel** to stop the installation. Once completed, the Installation Summary screen is displayed.

Figure 4–29 *Installation Summary*



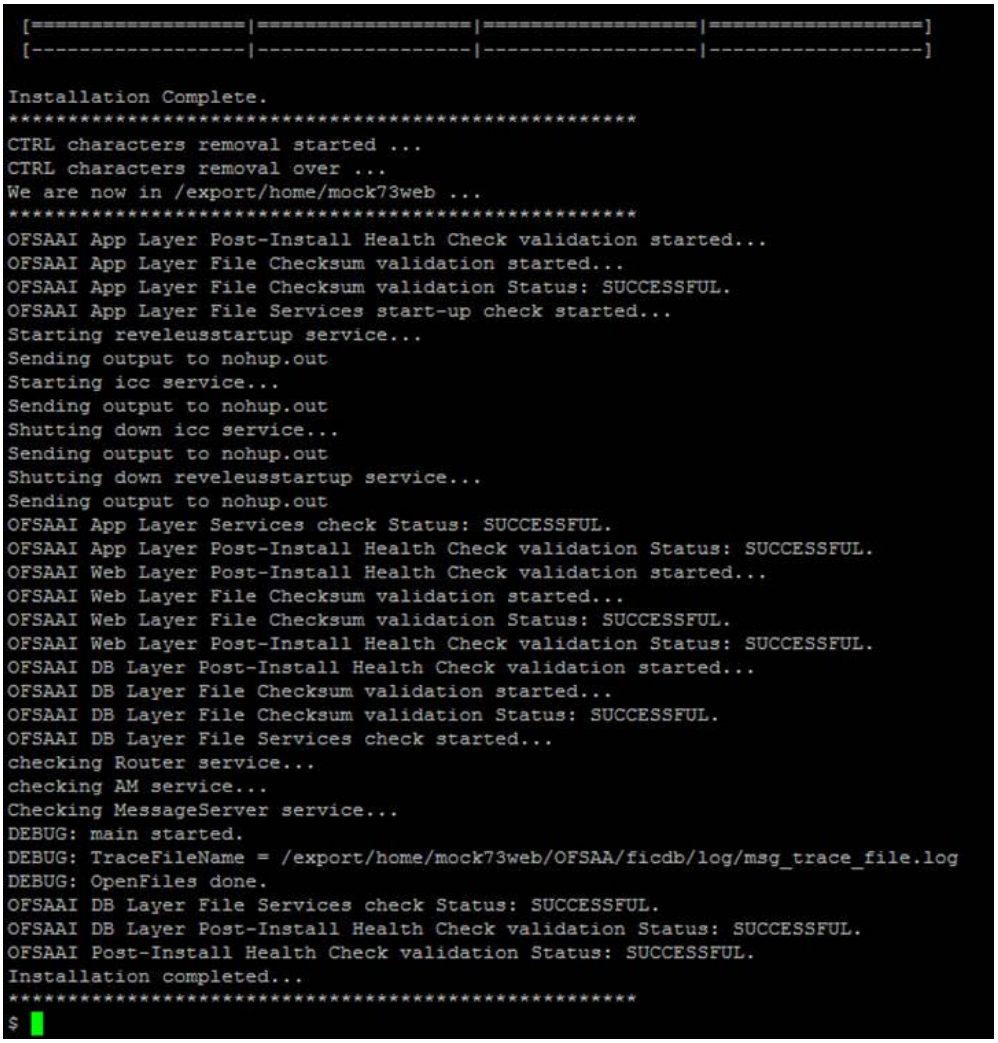
The Summary screen displays the number of Fatal Errors, Errors, Debug Statements, Informations, and Warnings along with the location of log files.

37. Click **Next**. The *Installation Complete* window is displayed.

Figure 4–30 *Installation Complete*

38. Click **Done**. The *Installation Complete* window is displayed.

Figure 4–31 *Installation Complete*


[==========|==========|==========|==========]
[----------|----------|----------|----------]
Installation Complete.
****
CTRL characters removal started ...
CTRL characters removal over ...
We are now in /export/home/mock73web ...
****
OFSAAI App Layer Post-Install Health Check validation started...
OFSAAI App Layer File Checksum validation started...
OFSAAI App Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI App Layer File Services start-up check started...
Starting reveleusstartup service...
Sending output to nohup.out
Starting icc service...
Sending output to nohup.out
Shutting down icc service...
Sending output to nohup.out
Shutting down reveleusstartup service...
Sending output to nohup.out
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI App Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation started...
OFSAAI Web Layer File Checksum validation started...
OFSAAI Web Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI Web Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation started...
OFSAAI DB Layer File Checksum validation started...
OFSAAI DB Layer File Checksum validation Status: SUCCESSFUL.
OFSAAI DB Layer File Services check started...
checking Router service...
checking AM service...
Checking MessageServer service...
DEBUG: main started.
DEBUG: TraceFileName = /export/home/mock73web/OFSAA/ficdb/log/msg_trace_file.log
DEBUG: OpenFiles done.
OFSAAI DB Layer File Services check Status: SUCCESSFUL.
OFSAAI DB Layer Post-Install Health Check validation Status: SUCCESSFUL.
OFSAAI Post-Install Health Check validation Status: SUCCESSFUL.
Installation completed...
****
$

Log File

The log files `OFSAAI733.log` and `OFSAAInfrastructure_Install.log` can be found in the installation path `$FIC_HOME`. The log files contain detailed summary of installation processes. It also shows the number of Fatal Errors, Errors, Debug Statements, Information, and Warnings.

Note: The warnings "IMP-00041: object created with compilation warnings" present in `sampleapp.log` can be ignored.

5

Post Installation Configuration

Once the Infrastructure installation is completed successfully, certain post-installation steps are required to set configuration parameters. These configuration parameters are distributed across the machines on which Infrastructure Web, Application, and Database components have been installed.

Note the following:

Ensure to clear the application cache prior to the deployment of Infrastructure or Application Service Packs / One-off patches. This is applicable to all Web Servers (WebSphere, WebLogic, Tomcat) and OS combinations. For more information, refer Appendix B.2.23, "Clearing Application Cache" section.

5.1 Configuring Resource Reference

Refer to the required section depending on your webserver configuration:

- Configure Resource Reference in WebSphere Application Server
- Configure Resource Reference in Weblogic Application Server
- Configure Resource Reference in Tomcat Application Server

5.1.1 Configure Resource Reference in Infrastructure Web Application

The `web.xml` file has to be updated with the "Information Domain" name as the **resource reference** name. This is required for "connection pooling" with the "Information Domain" database schema.

5.1.1.1 Configure web.xml

The `web.xml` file has to be updated with the "Information Domain" name as the **resource reference** name. An Information Domain refers to a specific area of analysis which consists of stored data models with the related Technical and Business data definitions for processing.

1. Navigate to `$FIC_WEB_HOME/webroot/WEB-INF`.
2. Add the "Information Domain" name in the following block of text at the end of the `web.xml` file.

```
<resource-ref>
<res-ref-name>jdbc/<INFODOM NAME></res-ref-name>
<res-type>javax.sql.DataSource</res-type>
<res-auth>Container</res-auth>
```

```
</resource-ref>
```

Here, <INFODOM NAME> is the name of the "Information Domain" that you will create for the application installation.

Note: This block of text must be repeated for any new "Information Domains" created. Also the sample bundled with "web.xml" has "ORDEMO" entered in the <INFODOM NAME> tag. This needs to be replaced with the "Information Domain" created for the application installation.

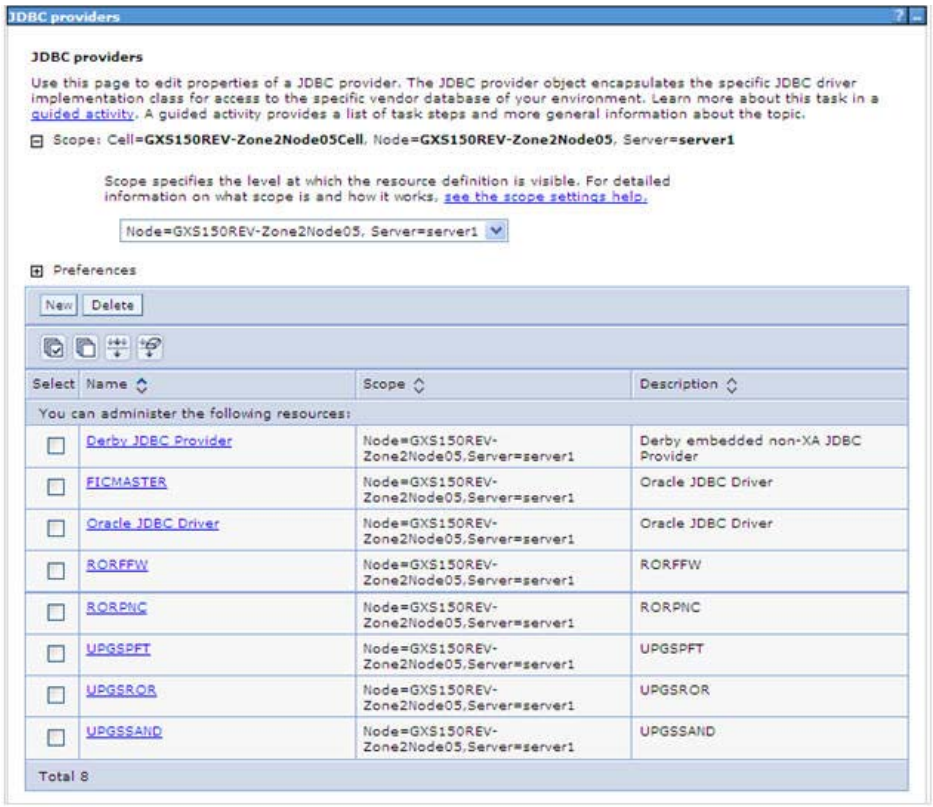
5.1.2 Configure Resource Reference in WebSphere Application Server

This section is applicable only when the Web Application Server type is WebSphere.

5.1.2.1 Create JDBC Provider

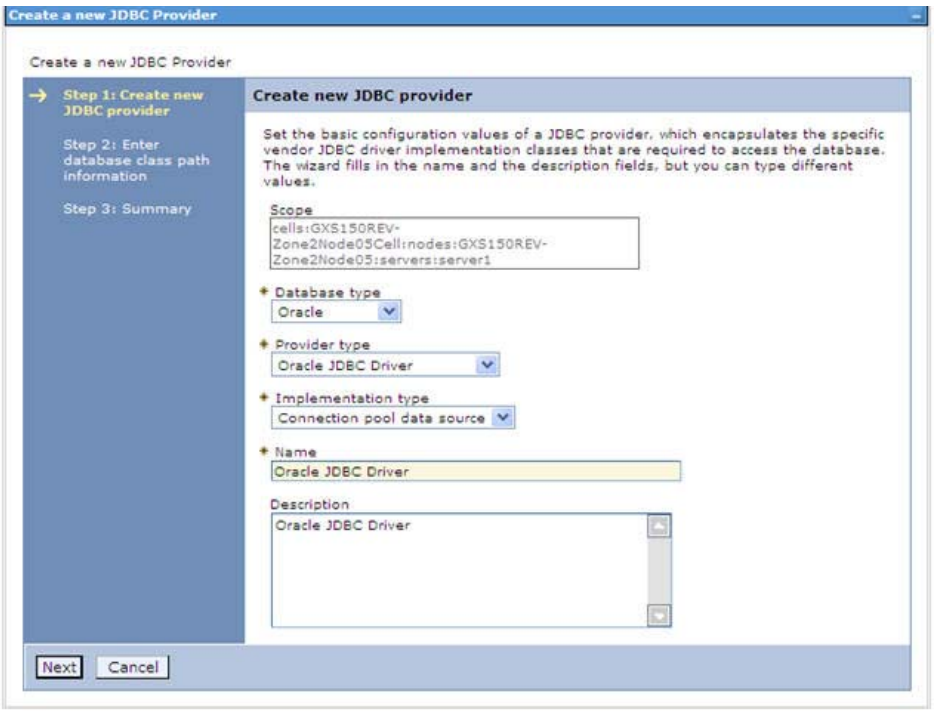
1. Open this URL in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC** > **JDBC Providers**. The *JDBC Providers* window is displayed.

Figure 5–1 JDBC Providers



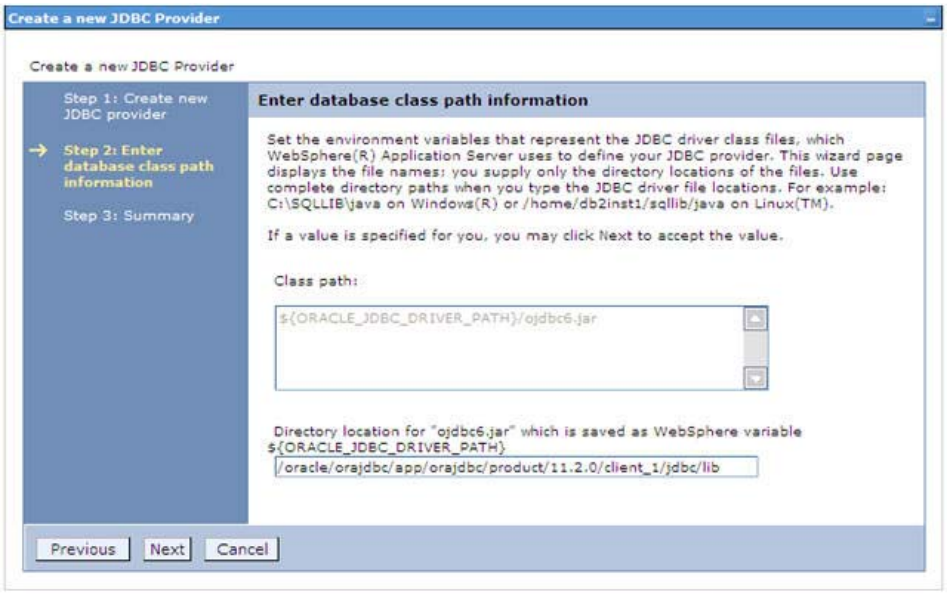
4. Select the **Scope** from the drop-down list. Scope specifies the level at which the resource definition is visible.
5. Click **New** to add new JDBC Provider under the *Preferences* section. The Create *new JDBC provider* window is displayed.

Figure 5–2 Create a new JDBC Provider


Create a new JDBC Provider
Create a new JDBC Provider
Step 1: Create new JDBC provider
Step 2: Enter database class path information
Step 3: Summary
Create new JDBC provider
Set the basic configuration values of a JDBC provider, which encapsulates the specific vendor JDBC driver implementation classes that are required to access the database. The wizard fills in the name and the description fields, but you can type different values.
Scope
cells:GXS150REV-Zone2Node05Cell:nodes:GXS150REV-Zone2Node05:servers:server1
Database type
Oracle
Provider type
Oracle JDBC Driver
Implementation type
Connection pool data source
Name
Oracle JDBC Driver
Description
Oracle JDBC Driver
Next
Cancel

6. Enter the following details:
   - **Database Type** - Oracle
   - **Provider Type**- Oracle JDBC Driver
   - **Implementation Type**- Connection pool data source
   - **Name**- The required display name for the resource
   - **Description** - The optional description for the resource
7. Click **Next.**

Figure 5–3 Enter database class path information


Create a new JDBC Provider
Create a new JDBC Provider
Step 1: Create new JDBC provider
Step 2: Enter database class path information
Step 3: Summary
Enter database class path information
Set the environment variables that represent the JDBC driver class files, which WebSphere(R) Application Server uses to define your JDBC provider. This wizard page displays the file names: you supply only the directory locations of the files. Use complete directory paths when you type the JDBC driver file locations. For example: C:\SQLLIB\java on Windows(R) or /home/db2inst1/sqllib/java on Linux(TM).
If a value is specified for you, you may click Next to accept the value.
Class path:
${ORACLE_JDBC_DRIVER_PATH}/ojdbc6.jar
Directory location for "ojdbc6.jar" which is saved as WebSphere variable ${ORACLE_JDBC_DRIVER_PATH}
/oracle/orajdbc/app/orajdbc/product/11.2.0/client_1/jdbc/lib
Previous
Next
Cancel

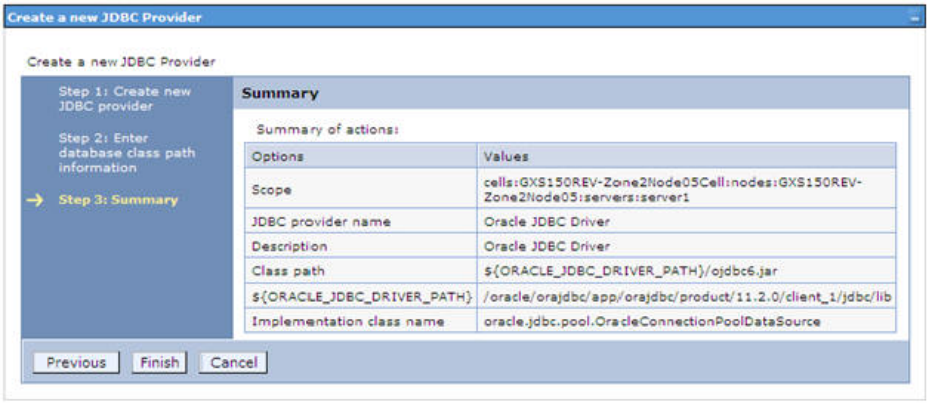
8. Specify the directory location for "`ojdbc6.jar`" file. Ensure that you do not use the trailing slash file separators.

   The Oracle JDBC driver (Download "`ojdbc6.jar`" for Oracle 11g R2) file corresponding to the required version of Oracle Client can be downloaded from Oracle Download site.

   Once downloaded, you need to place the file in the required folder in your system. While creating the JDBC Provider, ensure that the path to the jar file in the folder is specified in the **Class path** field in the *previous* window.

9. Click **Next**. The *Summary* window is displayed.

Figure 5–4 Summary



10. Verify the details and click **Finish** to create the JDBC Provider.

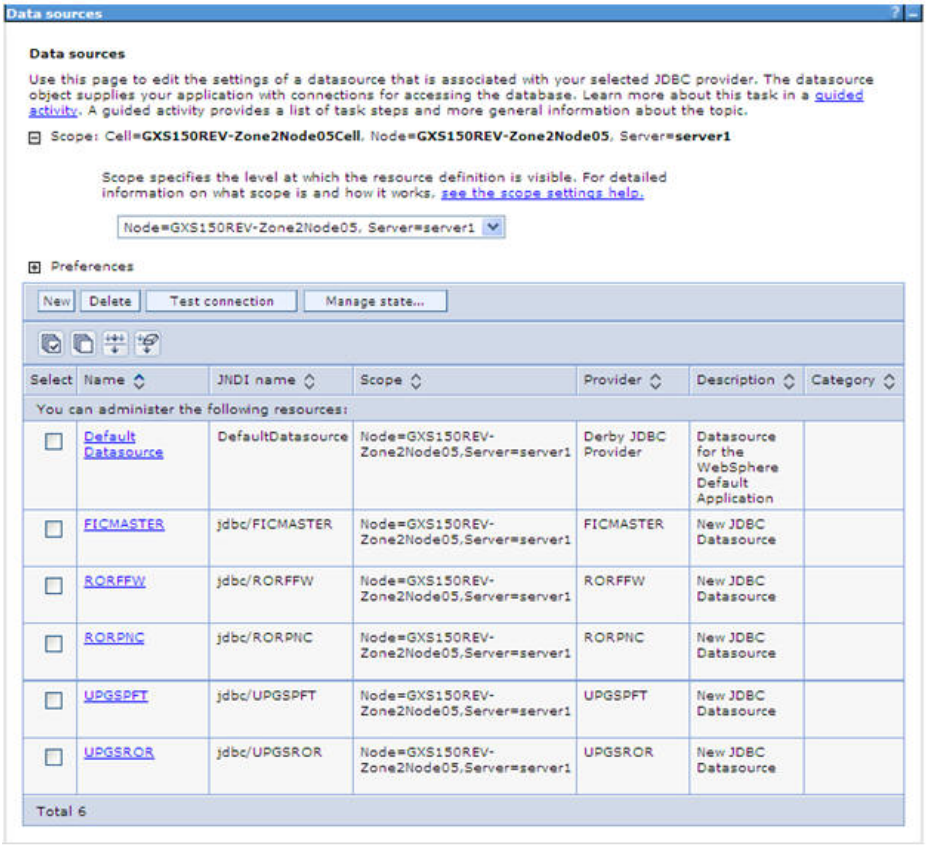
11. The options to **Save** and **Review** are displayed. Click **Save**.

5.1.2.2 Create Data Source

The steps given below are applicable for both config and atomic data source creation.

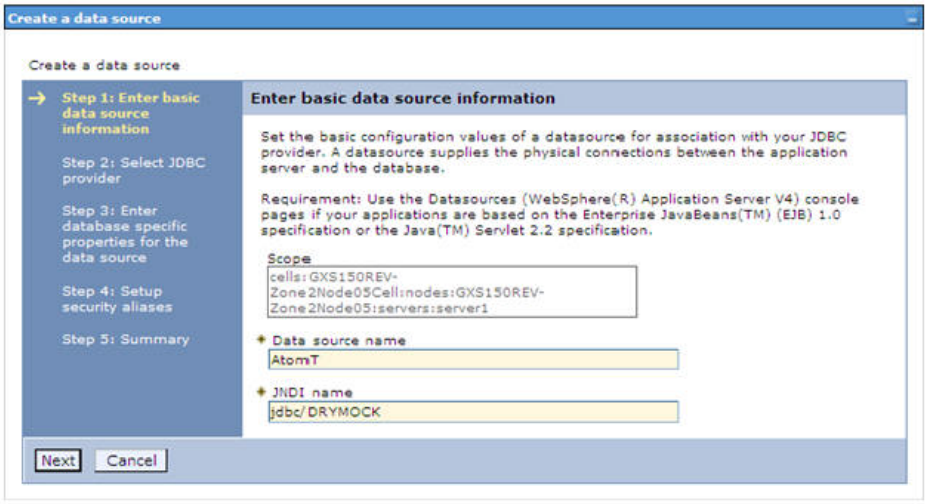
1. Open this URL in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC** > **Data sources** option. The *Data sources* page is displayed.

Figure 5–5 Data Sources



4. Select the **Scope** from the drop down list. Scope specifies the level at which the resource definition is visible.
5. Click **New**. The *Create a Data Source* window is displayed.

Figure 5–6 *Create a data source*


Create a data source
Create a data source
Step 1: Enter basic data source information
Step 2: Select JDBC provider
Step 3: Enter database specific properties for the data source
Step 4: Setup security aliases
Step 5: Summary
Enter basic data source information
Set the basic configuration values of a datasource for association with your JDBC provider. A datasource supplies the physical connections between the application server and the database.
Requirement: Use the Datasources (WebSphere(R) Application Server V4) console pages if your applications are based on the Enterprise JavaBeans(TM) (EJB) 1.0 specification or the Java(TM) Servlet 2.2 specification.
Scope
cells:GXS150REV-Zone2Node05Cell:nodes:GXS150REV-Zone2Node05:servers:server1
Data source name
AtomT
JNDI name
jdbc/DRYMOCK
Next
Cancel

6. Specify the **Data Source name** and **JNDI name** for the new "Data Source".

   The **JNDI** and **Data Source** name are case sensitive and ensure that JNDI name is same as the "Information Domain".

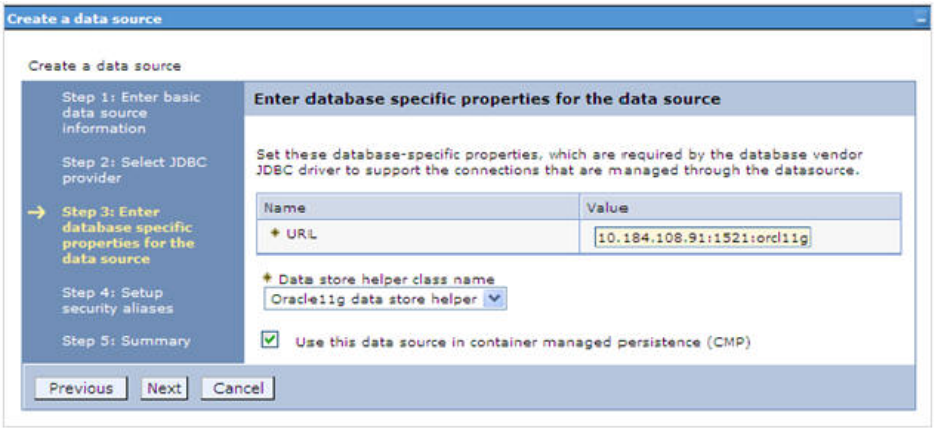
7. Click **Next**. The *Select JDBC provider* window is displayed.

Figure 5–7 *Select JDBC provider*

Create a data source
Create a data source
Step 1: Enter basic data source information
Step 2: Select JDBC provider
Step 3: Enter database specific properties for the data source
Step 4: Setup security aliases
Step 5: Summary
Select JDBC provider
Specify a JDBC provider to support the datasource. If you choose to create a new JDBC provider, it will be created at the same scope as the datasource. If you are selecting an existing JDBC provider, only those providers at the current scope are available from the list.
Create new JDBC provider
Select an existing JDBC provider
Oracle JDBC Driver
Previous
Next
Cancel

8. Select the option **Select an Existing JDBC Provider** and select the required JDBC provider from the drop-down list. Click **Next**.

Figure 5–8 *Enter database specific properties*


Create a data source
Create a data source
Step 1: Enter basic data source information
Step 2: Select JDBC provider
Step 3: Enter database specific properties for the data source
Step 4: Setup security aliases
Step 5: Summary
Enter database specific properties for the data source
Set these database-specific properties, which are required by the database vendor JDBC driver to support the connections that are managed through the datasource.
Name
Value
URL
10.184.108.91:1521:orcl11g
Data store helper class name
Oracle11g data store helper
Use this data source in container managed persistence (CMP)
Previous
Next
Cancel

9. Specify the database connection URL.

   URL format: `jdbc:oracle:thin:@<DB_SEREVER_IP>:<DB_SERVER_PORT>:<SID>`

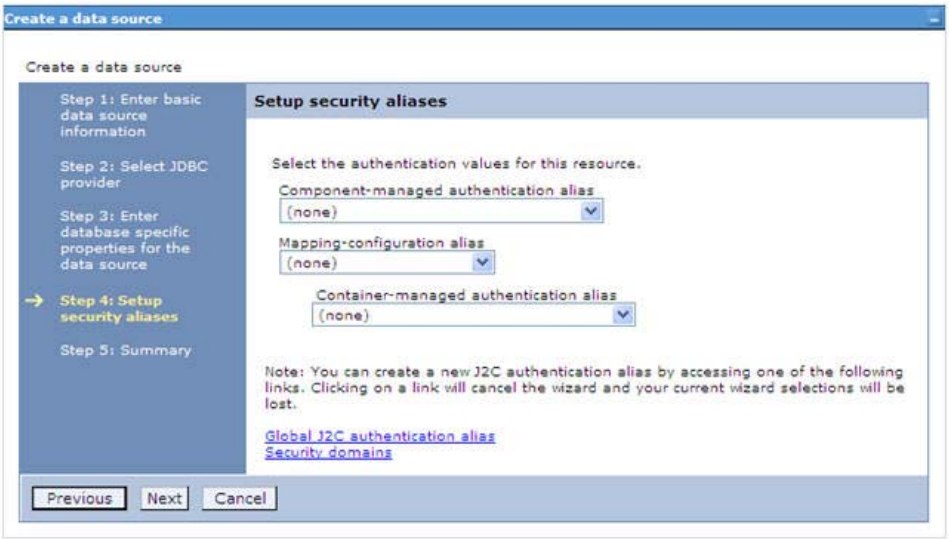
10. Select **Data Store Helper Class Name** from the drop-down list and ensure that the checkbox **Use this data source in container managed persistence (CMP)** is selected.

    Note: For RAC configuration, provide the RAC url specified during installation.

    Example: `jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=10.184.108.91)(port=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=10.184.108.92)(PORT=1521))(LOAD_BALANCE=no)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=pqadb)))`

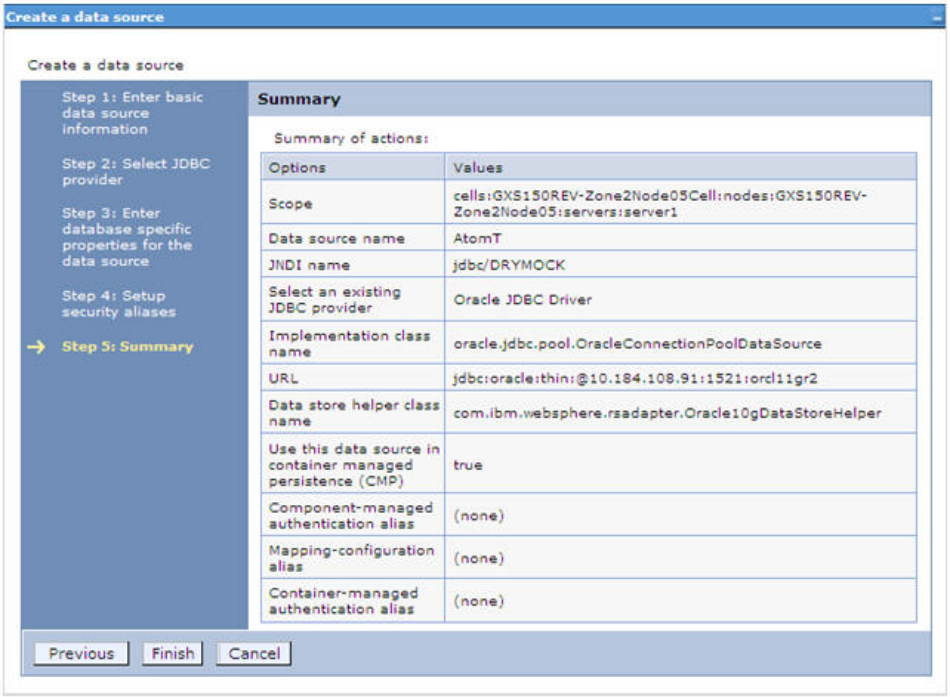
11. Click **Next**.

Figure 5–9 *Setup security aliases*


Create a data source
Create a data source
Step 1: Enter basic data source information
Step 2: Select JDBC provider
Step 3: Enter database specific properties for the data source
Step 4: Setup security aliases
Step 5: Summary
Setup security aliases
Select the authentication values for this resource.
Component-managed authentication alias
(none)
Mapping-configuration alias
(none)
Container-managed authentication alias
(none)
Note: You can create a new J2C authentication alias by accessing one of the following links. Clicking on a link will cancel the wizard and your current wizard selections will be lost.
Global J2C authentication alias
Security domains
Previous
Next
Cancel

12. Map the J2C authentication alias, if already created. If not, you can create a new J2C authentication alias by accessing the link given (**Global J2C authentication alias**) or you can continue with the data source creation by clicking **Next** and then **Finish**.

Figure 5–10 *Summary*



You can also create and map J2C authentication alias after creating the data source.

13. You must create another Data source by following the above procedure with jdbc/FICMASTER as JNDI name pointing to the "configuration schema" of Infrastructure.

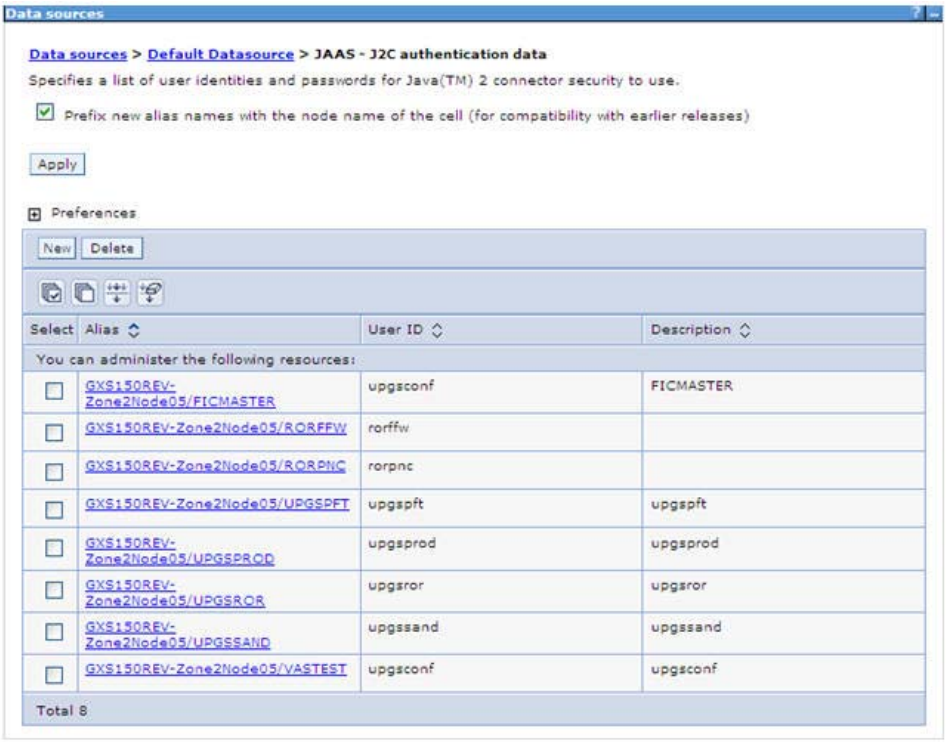
5.1.2.3 J2C Authentication Details

The steps given below are applicable for creating both config and atomic J2C Authentication.

To create J2C Authentication details:

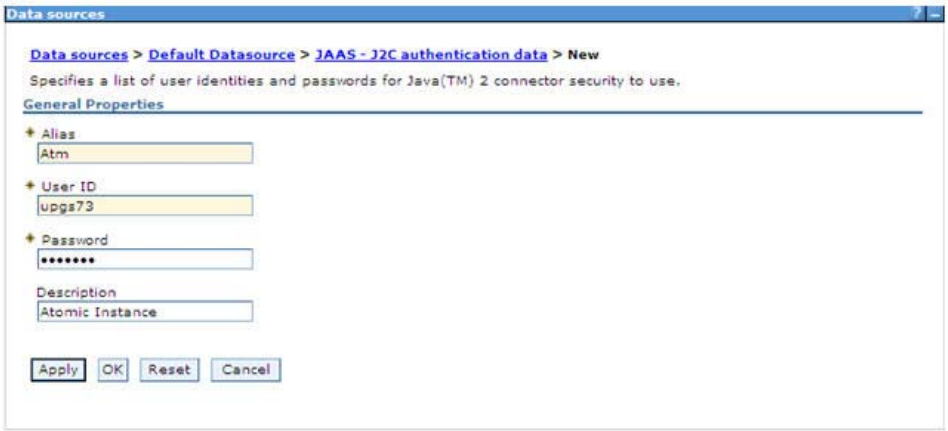
1. Select the newly created Data Source and click **JAAS - J2C authentication data** link under **Related Items.**

   JAAS- J2C authentication data



2. Click **New** under the *Preferences* section.

Figure 5–11 *JAAS- J2C authentication data- New*



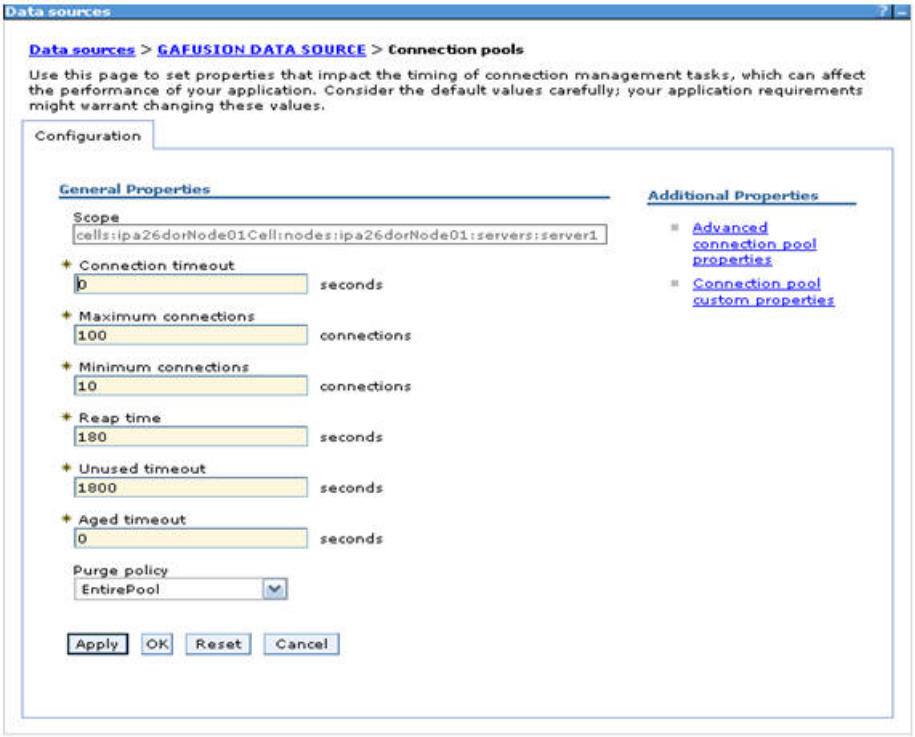
3. Enter the **Alias**, **User ID**, **Password**, and **Description**. Ensure the following:
   - **User ID** is the Oracle user ID created for the respective Information Domain.
   - Specify the "config" database user ID and password information for the jdbc/FICMASTER data source, and specify the "atomic" database user ID and password information for the "atomic" schema data source that you created earlier.
4. Click **Apply** and save the details.

5.1.2.4 JDBC Connection Pooling

To define the JDBC connection pooling ensure that you have created JDBC Provider and Data source to access the data from the database.

1. Click the newly created Data Source `$DATA_SOURCE$` and navigate to the path `Data sources>$DATA_SOURCE$>Connection pools`.

Figure 5–12 *Connection Pools*



2. Set the values for **Connection timeout** to 0 seconds, **Maximum connections** to 100 connections, and **Minimum connections** to 10 connections as shown in the following figure. You can also define **Reap Time, Unused Timeout, and Aged Timeout** as required.

5.1.3 Configure Resource Reference in Weblogic Application Server

This section is applicable only when the Web Application Server type is WebLogic.

In Weblogic, you can create "Data Source" in the following ways:

- For a normal Database instance, Generic Data Source can be created. See Create Data Source.
- When Database is RAC configured, Gridlink Data Source has to be created. See Create GridLink Data Source.
- When Load Balancing/Fail over is required, Multi Data Source has to be created. See Configure Multi Data Sources.

5.1.3.1 Create Data Source

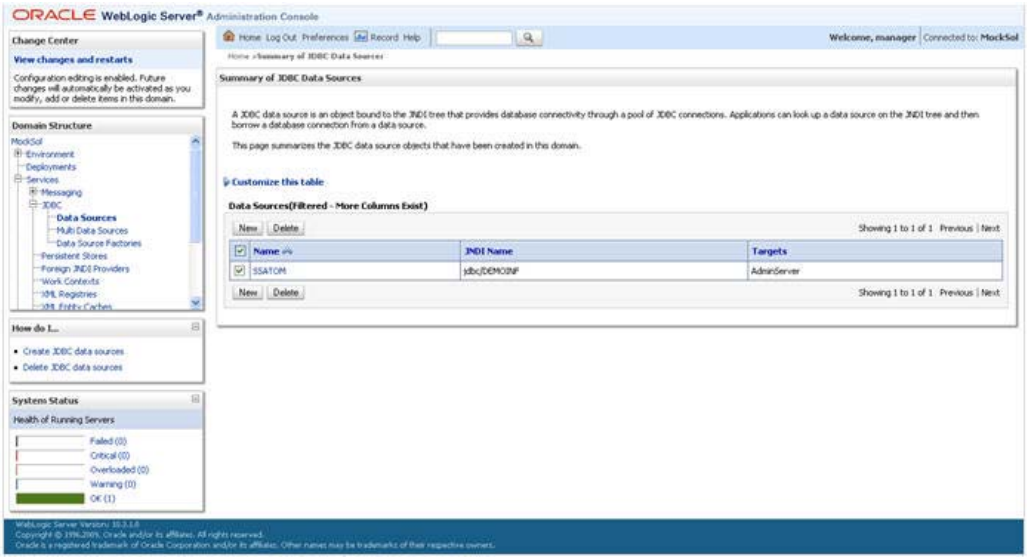
The steps given below are applicable for both config and atomic data source creation.

1. Open the following URL in the browser window: `http://<ipaddress>:<administrative console port>/console`. (https if SSL is enabled). The *Welcome* window is displayed.
2. Login with the Administrator **Username** and **Password**.

Figure 5–13 *Welcome*

3. From the LHS menu (Domain Structure), click **Services** > **Data Sources**. The *Summary of JDBC Data Sources* window is displayed.

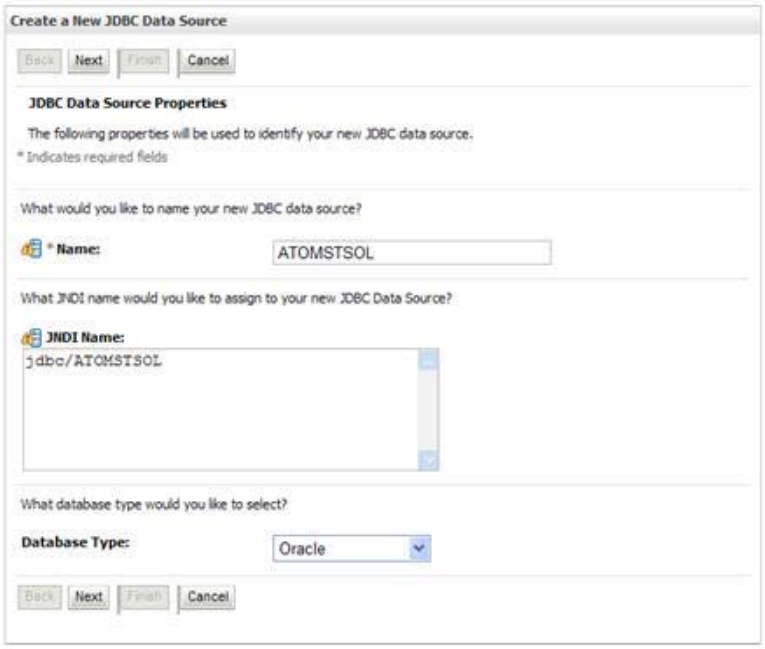
Figure 5–14 *Summary of JDBC Data Sources*



4. Click **New** and select **Generic Data Source** option. The *Create a New JDBC Data Source* window is displayed.

   You can also select **GridLink Data Source** or **Multi Data Source** while creating a Data Source. For more information, see Create GridLink Data Sourceor Configure Multi Data Sources.

Figure 5–15 *Create a New JDBC Data Source*

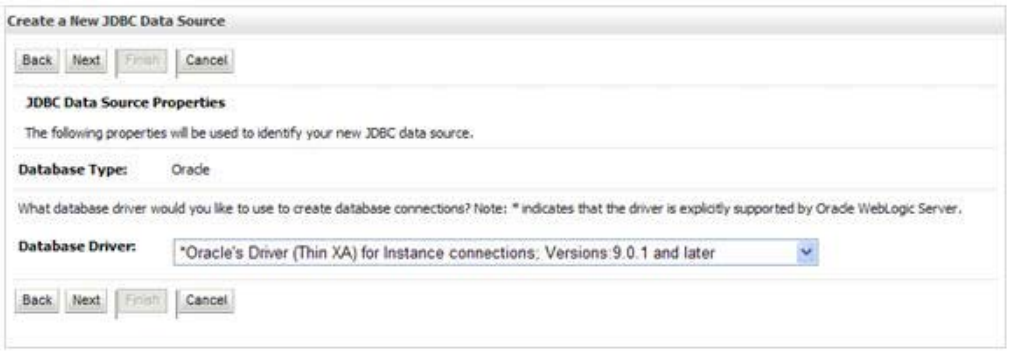


5. Enter JDBC data source **Name**, **JNDI Name**, and select the **Database Type** from the drop-down list. Click **Next**.

   Ensure the following:

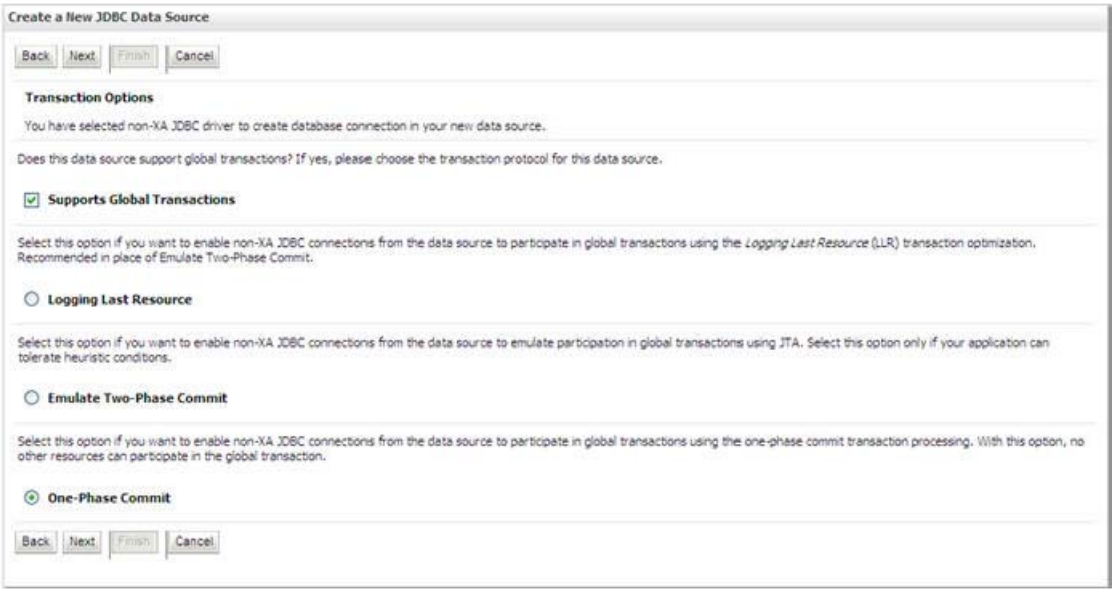
- The JNDI Name field should be in the format "jdbc/informationdomain"
- Same steps needs to be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with `jdbc/FICMASTER` as JNDI name.
- JNDI Name is the same as mentioned in `web.xml` file of OFSAAI Application.
- Required "Database Type" and "Database Driver" should be selected.

Figure 5–16 *JDBC Data Source Properties*


Create a New JDBC Data Source
Back
Next
Finish
Cancel
JDBC Data Source Properties
The following properties will be used to identify your new JDBC data source.
Database Type:
Oracle
What database driver would you like to use to create database connections? Note: * indicates that the driver is explicitly supported by Oracle WebLogic Server.
Database Driver:
*Oracle's Driver (Thin XA) for Instance connections; Versions:9.0.1 and later
Back
Next
Finish
Cancel

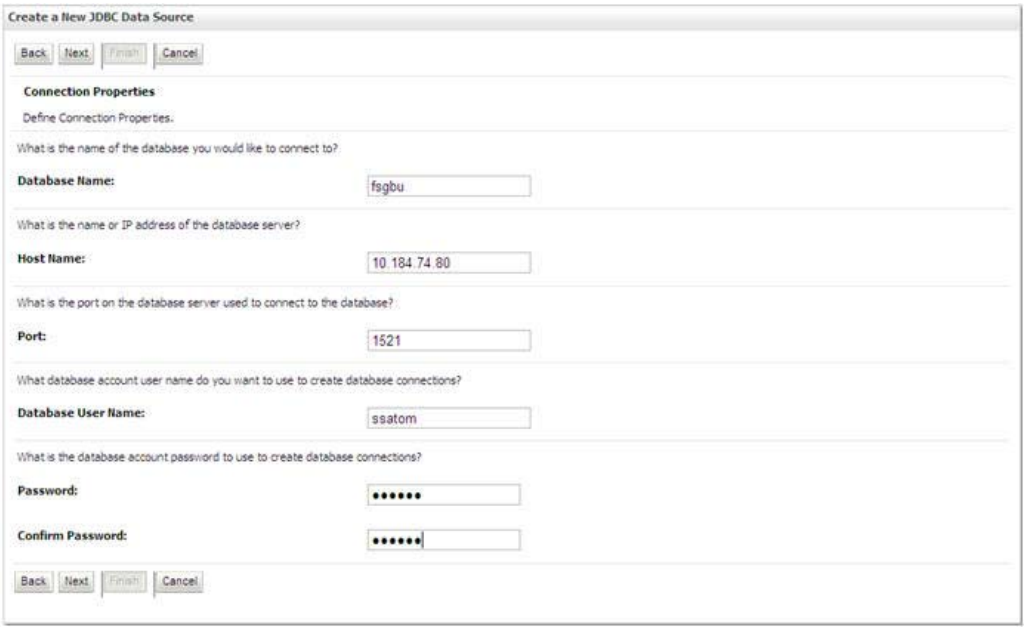
6. Select the **Database Driver** from the drop-down list. You need to select the Database Driver depending on database setup, that is, with or without RAC. Click **Next**.

Figure 5–17 *Transaction Options*


Create a New JDBC Data Source
Back
Next
Finish
Cancel
Transaction Options
You have selected non-XA JDBC driver to create database connection in your new data source.
Does this data source support global transactions? If yes, please choose the transaction protocol for this data source.
Supports Global Transactions
Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the Logging Last Resource (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit.
Logging Last Resource
Select this option if you want to enable non-XA JDBC connections from the data source to emulate participation in global transactions using JTA. Select this option only if your application can tolerate heuristic conditions.
Emulate Two-Phase Commit
Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the one-phase commit transaction processing. With this option, no other resources can participate in the global transaction.
One-Phase Commit
Back
Next
Finish
Cancel

7. Select the **Supports Global Transactions** checkbox and the **One-Phase Commit** option.
8. Click **Next**. The *Connection Properties* window is displayed.

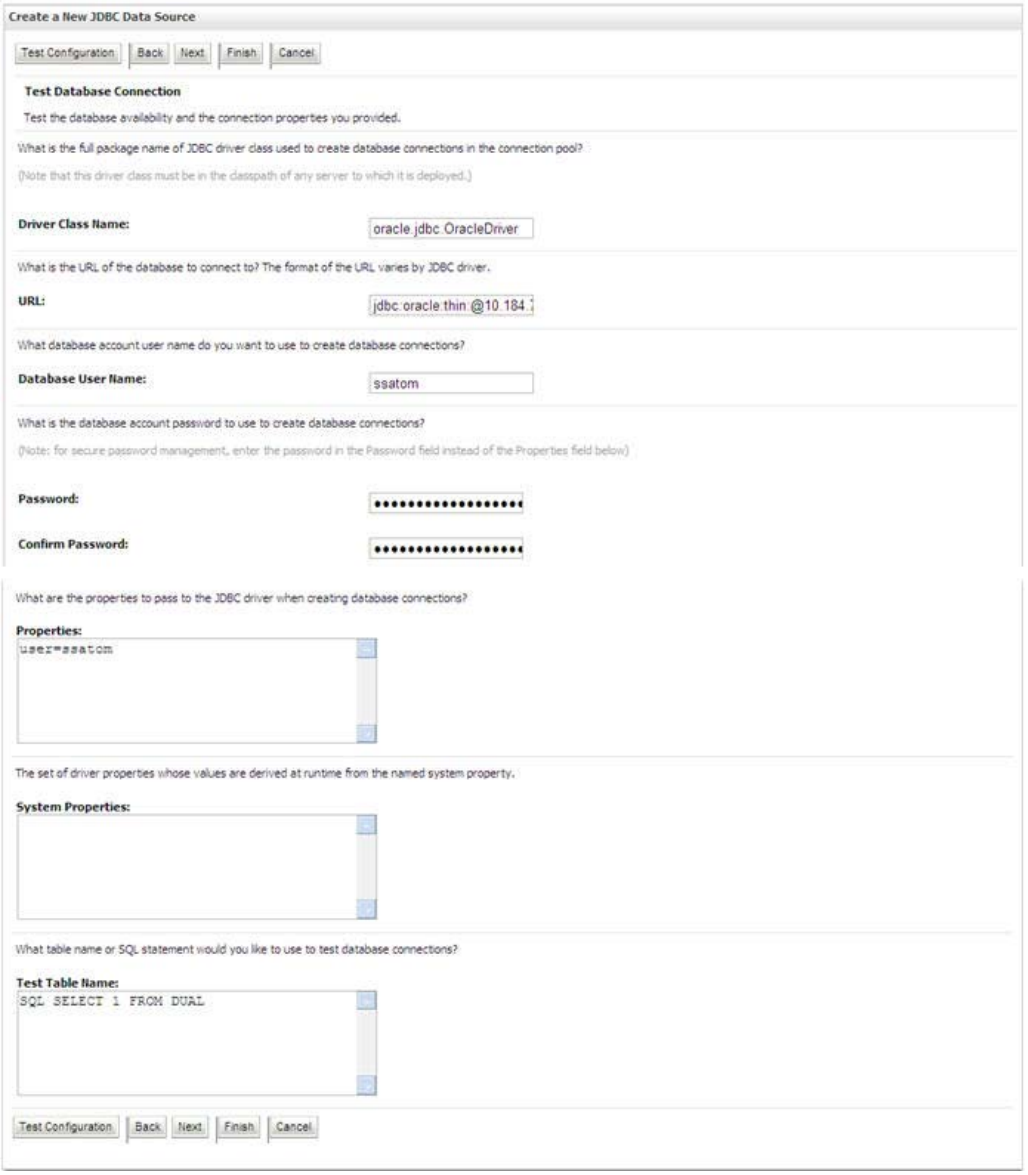
Figure 5–18 *Connection Properties*



9. Enter the required details such as the **Database Name**, **Host Name**, **Port**, **Oracle User Name**, and **Password**.

10. Click **Next**. The *Test Database Connection* window is displayed.

Figure 5–19 *Test Database Connection*


Create a New JDBC Data Source
Test Configuration
Back
Next
Finish
Cancel
Test Database Connection
Test the database availability and the connection properties you provided.
What is the full package name of JDBC driver class used to create database connections in the connection pool?
(Note that this driver class must be in the classpath of any server to which it is deployed.)
Driver Class Name:
oracle.jdbc.OracleDriver
What is the URL of the database to connect to? The format of the URL varies by JDBC driver.
URL:
jdbc:oracle:thin:@10.184.
What database account user name do you want to use to create database connections?
Database User Name:
ssatom
What is the database account password to use to create database connections?
(Note: for secure password management, enter the password in the Password field instead of the Properties field below)
Password:
Confirm Password:
What are the properties to pass to the JDBC driver when creating database connections?
Properties:
user=ssatom
The set of driver properties whose values are derived at runtime from the named system property.
System Properties:
What table name or SQL statement would you like to use to test database connections?
Test Table Name:
SQL SELECT 1 FROM DUAL
Test Configuration
Back
Next
Finish
Cancel

11. Verify the details and click **Test Configuration** and test the configuration settings.

    A confirmation message is displayed stating "Connection test succeeded."

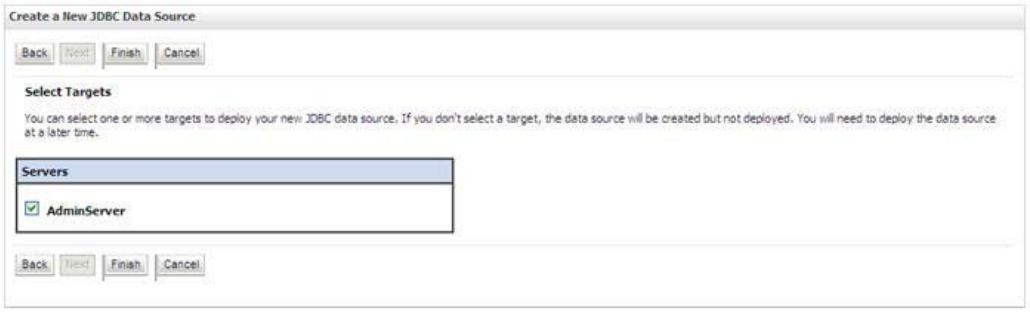
12. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

Note the following:

- "User ID" is the Oracle user ID that is created for the respective "Information Domain".
- "User ID" to be specified for data source with "FICMASTER" as "JNDI" name should be the Oracle user ID created for the "configuration schema".

13. Select the new Data Source and click the **Targets** tab.

Figure 5–20 *Select Targets*

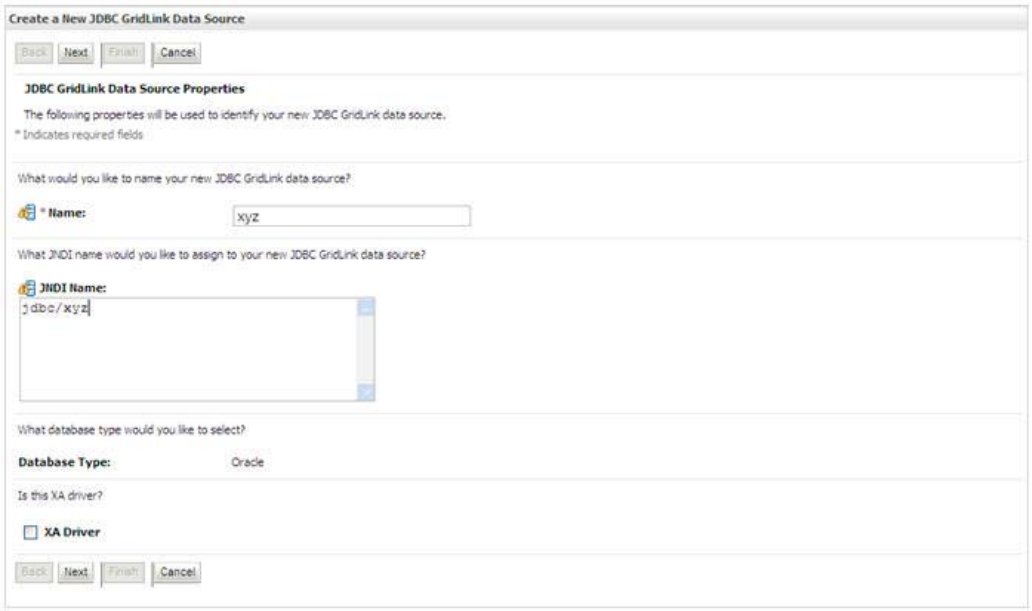

Create a New JDBC Data Source
Back
Next
Finish
Cancel
Select Targets
You can select one or more targets to deploy your new JDBC data source. If you don't select a target, the data source will be created but not deployed. You will need to deploy the data source at a later time.
Servers
AdminServer
Back
Next
Finish
Cancel

14. Select the **AdminServer** option and click **Finish**.

5.1.3.2 Create GridLink Data Source

If you have selected the option, **New** > **GridLink Data Source** while creating the "Data Source", you can directly specify the JDBC URL as indicated.

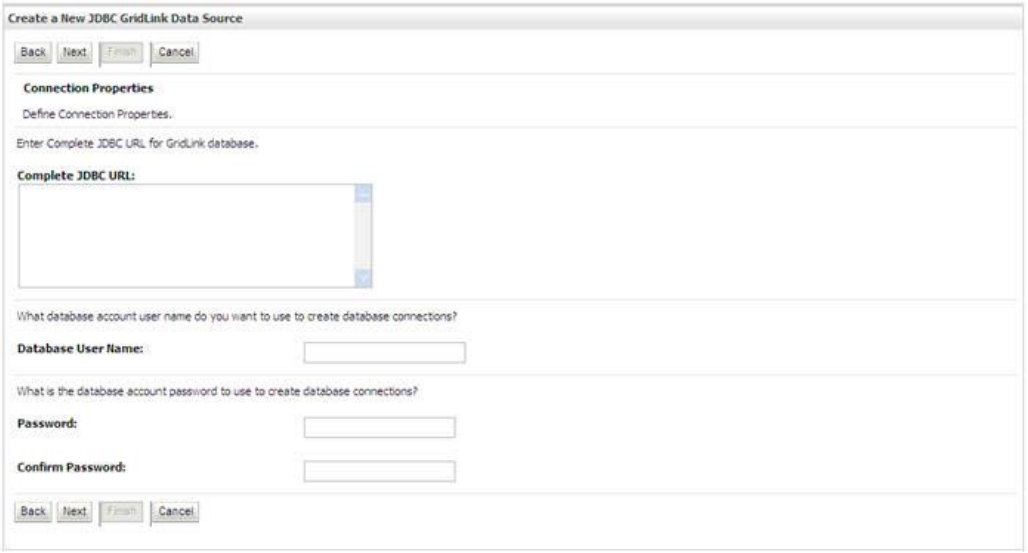
Figure 5–21 *Create a New JDBC GridLinkData Source*



1. Enter Data Source **Name**, and **JNDI Name**.

Ensure that the "JNDI Name" field is specified in the format "jdbc/infodomname" and the **XA Driver** checkbox is not selected. Click **Next**.

Figure 5–22 *JDBC GridLinkData Source- Connection Properties*



2. Specify **Complete JDBC URL**, **Database User Name**, and **Password**. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

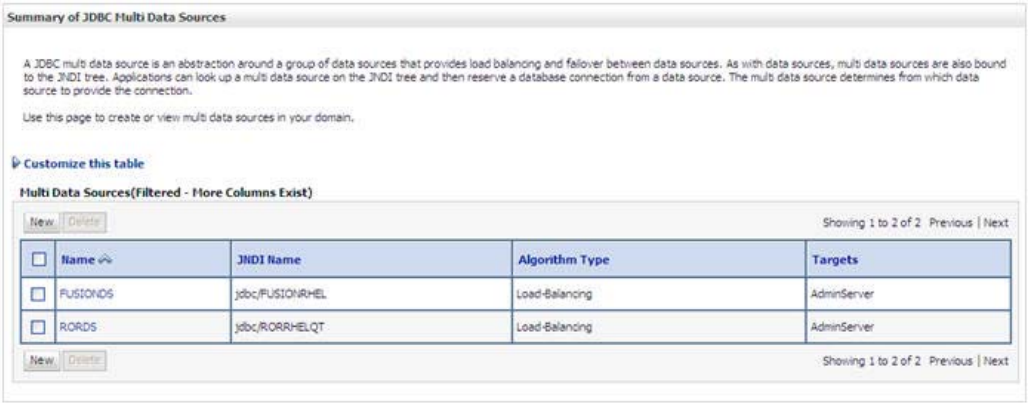
5.1.3.3 Configure Multi Data Sources

A JDBC multi data source is an abstraction around a group of data sources that provides load balancing and failover between data sources. As with data sources, multi data sources are also bound to the JNDI tree. Applications can look up a multi data source on the JNDI tree and then reserve a database connection from a data source. The multi data source determines from which data source to provide the connection.

When the database used is **Oracle RAC (Real Application Clusters)** which allows Oracle Database to run across a set of clustered servers, then group of data sources can be created for instances running on a set of clustered servers and a JDBC multi data source can be created so that applications can look up a multi data source on the JNDI tree to reserve database connection. If a clustered server fails, Oracle continues running on the remaining servers.

1. Open the following URL in the browser window: `http://<ipaddress>:<administrative console port>/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the "User ID" that has admin rights.
3. In the LHS menu (Domain Structure), select **Services** > **JDBC** > **Multi Data Sources**. The *Summary of JDBC Multi Data Sources* window is displayed.

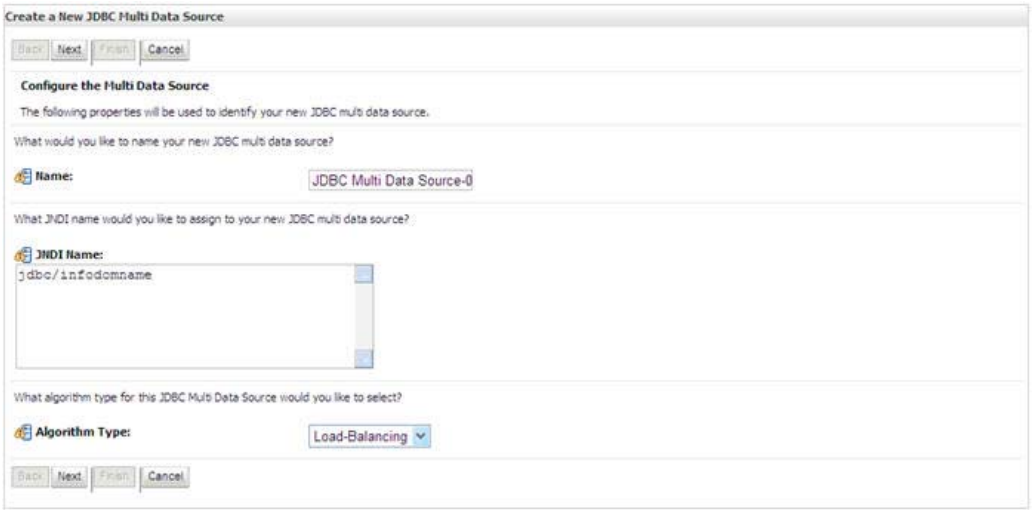
Figure 5–23 *Summary of JDBC Multi Data Sources*


Summary of JDBC Multi Data Sources
A JDBC multi data source is an abstraction around a group of data sources that provides load balancing and failover between data sources. As with data sources, multi data sources are also bound to the JNDI tree. Applications can look up a multi data source on the JNDI tree and then reserve a database connection from a data source. The multi data source determines from which data source to provide the connection.
Use this page to create or view multi data sources in your domain.
Customize this table
Multi Data Sources(Filtered - More Columns Exist)
New Delete
Showing 1 to 2 of 2 Previous | Next
Name
JNDI Name
Algorithm Type
Targets
FUSIONDS
jdbc/FUSIONRHEL
Load-Balancing
AdminServer
RORDS
jdbc/RORRHELQT
Load-Balancing
AdminServer
New Delete
Showing 1 to 2 of 2 Previous | Next

4. Click **New**. The *New JDBC Multi Data Source* screen is displayed.

   NOTE: Ensure that the Data Sources which needs to be added to new JDBC Multi Data Source has been created.

Figure 5–24 *Configure the Multi Data Source*


Create a New JDBC Multi Data Source
Back Next Finish Cancel
Configure the Multi Data Source
The following properties will be used to identify your new JDBC multi data source.
What would you like to name your new JDBC multi data source?
Name:
JDBC Multi Data Source-0
What JNDI name would you like to assign to your new JDBC multi data source?
JNDI Name:
jdbc/infodomname
What algorithm type for this JDBC Multi Data Source would you like to select?
Algorithm Type:
Load-Balancing
Back Next Finish Cancel

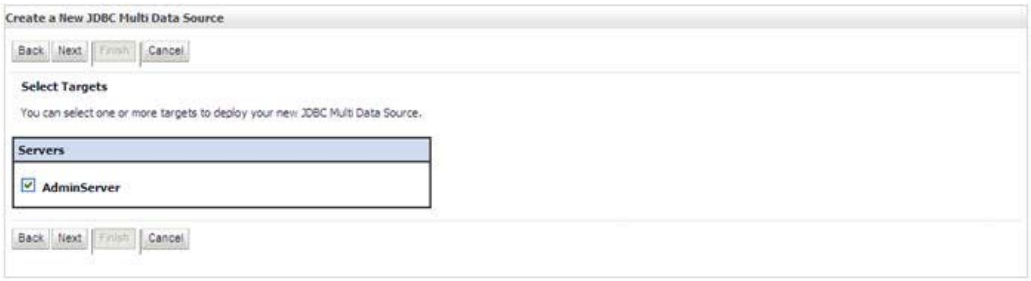
5. Enter the JDBC Source **Name**, **JNDI name**, and select the **Algorithm Type** from the drop-down list. Click **Next**.

Note the following:

- The JNDI Name has to be specified in the format `jdbc/infodomname`.
- JNDI Name of the Data Sources that will be added to new JDBC Multi data source should be different from the JNDI name specified during Multi Data Source.
- Same steps needs to be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/FICMASTER as JNDI name for Data Source.
- JNDI Name provided in multi data source should be the same name that will be mentioned in the `web.xml` file of OFSAAI Application.

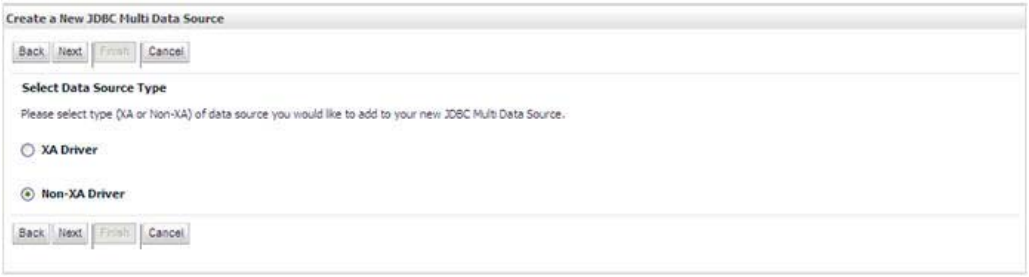
- You can select the **Algorithm Type** as **Load-Balancing**.

Figure 5–25 *Select Targets*



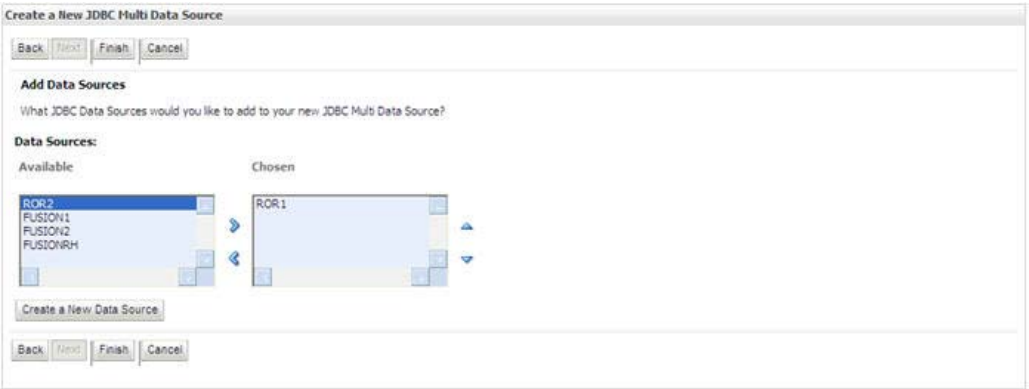
6. Select the **AdminServer** check box and click **Next**.

Figure 5–26 *Select Data Source Type*



7. Select the type of data source which will be added to new JDBC Multi Data Source. Click **Next**.

Figure 5–27 *Add Data Sources*



8. Map the required Data Source from the *Available* Data Sources. Click **Finish**.

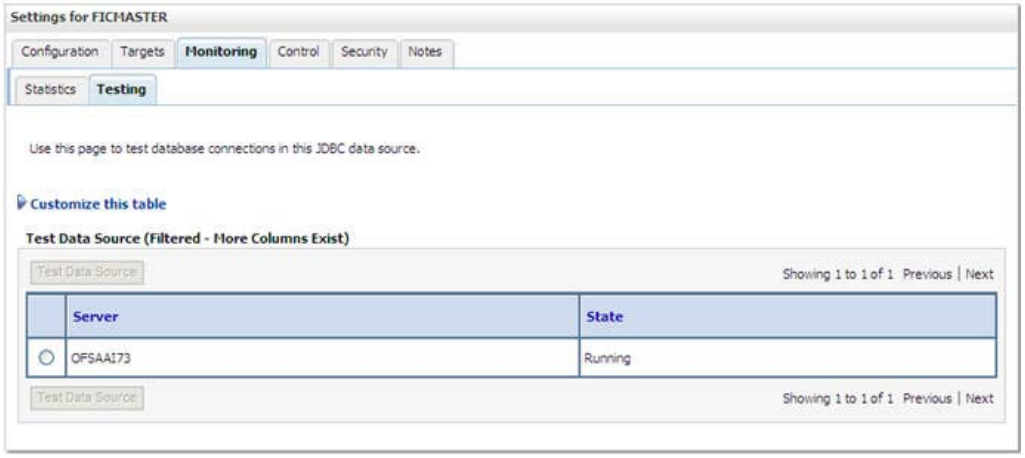
   The New JDBC Multi Data Source is created with added data sources.

5.1.3.4 Advanced Settings for Data Source

1. Click the new Data Source fromt the *Summary of JDBC Data Sources* window. The *Settings for <Data Source Name>* window is displayed.
2. Select the **Connection Pooling** tab given under Configuration.
3. Go to the **Advanced** option at the bottom of the page, and check the **Test Connection of Reserve** checkbox (Enables Weblogic Server to test a connection before giving it to a client).

   To verify if the data source is valid, select "Data Source name". For example, FICMASTER.

Figure 5–28 *Settings for <Data Source Name>*



4. Select the server and click **Test Data Source**.

   A message is displayed indicating that the test was successful.
5. Once the "Data Source" is created successfully, the following messages are displayed:
   - All changes have been activated. No restart is necessary.
   - Settings updated successfully.

   If not, follow the steps given above to recreate the data source.

5.1.3.5 JDBC Connection Pooling

To define the JDBC connection pooling, ensure that you have created JDBC Provider and Data source to access the data from the database.

1. Click the newly created Data Source $DATA_SOURCE$ and navigate to the path *Home >Summary of Services: JDBC >Summary of JDBC Data Sources >JDBC Data Source-<INFODDOM_NAME>*
2. Set the values for **Initial Capacity** to 10, **Maximum Capacity** to 100, **Capacity Increment** by 1, **Statement Cache Type** to LRU, and **Statement Cache Size** to 10.
3. Click **Save**.

5.1.4 Configure Resource Reference in Tomcat Application Server

This section is applicable only when the Web Application Server type is Tomcat.

Copy the JDBC driver file depending on your Oracle database version. As OFSAAI is certified on Oracle 11gR2, copy the Oracle JDBC driver file, "ojdbc6.jar" from `<Oracle Home>/jdbc/lib` and place it in `<Tomcat Home>/lib`.

5.1.4.1 Create Data Source

To create "data source" for Infrastructure application, navigate to `<Tomcat Home>/conf` and edit the following block of text by replacing the actual values in `server.xml`.

```
<Context path ="/<context name>" docBase="<Tomcat Installation
Directory>/webapps/<context name>" debug="0" reloadable="true"
crossContext="true">

<Resource auth="Container"

    name="jdbc/FICMASTER"

    type="javax.sql.DataSource"

    driverClassName="oracle.jdbc.driver.OracleDriver"

    username="<user id for the configuration schema database>"

    password="<password for the above user id>"

    url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>"

    maxActive="100"

    maxIdle="30"

    maxWait="10000"/>

<Resource auth="Container"

    name="jdbc/< INFORMATION DOMAIN NAME >"

type="javax.sql.DataSource"

    driverClassName="oracle.jdbc.driver.OracleDriver"

    username="<user id for the database>"

    password="<password for the above user id>"

    url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>"

    maxActive="100"

    maxIdle="30"

    maxWait="10000"/>

</Context>
```

Note the following:

- The `<Resource>` tag must be repeated for each Information Domain created.
- After the above configuration, the "WAR" file has to be created and deployed in Tomcat.

5.1.4.2 JDBC Connection Pooling

To define the JDBC connection pooling, do the following:

1. Copy `$ORACLE_HOME/jdbc/lib/ojdbc6.jar` to the path `$TOMCAT_DIRECTORY/lib/.`
2. Edit the `server.xml` present under the path `$TOMCAT_DIRECTORY/conf/` with the below changes, which is required for connection pooling.

<Context path="/ $CONTEXTNAME$" docBase=" $APP_DEPLOYED_PATH$ " debug="0" reloadable="true" crossContext="true">

<Resource auth="Container"

name="jdbc/ $INFODOM_NAME$"

type="javax.sql.DataSource"

driverClassName="oracle.jdbc.driver.OracleDriver"

username=" $ATOMICSCHEMA_USERNAME$"

password="$ATOMICSCHEMA_PASSWORD$"

url="$JDBC_CONNECTION_URL"

maxActive="100"

maxIdle="30"

maxWait="10000"

removeAbandoned="true" removeAbandonedTimeout="60"

logAbandoned="true"/>

</Context>

Note the following:

- $TOMCAT_DIRECTORY$ should be replaced by Tomcat application installed path.
- $CONTEXTNAME$ should be replaced by OFSAAI context name.
- $APP_DEPLOYED_PATH$ should be replaced by OFSAAI application deployed path.
- $INFODOM_NAME$ should be replaced by Infodom Name.
- $ATOMICSCHEMA_USERNAME$ should be replaced by Atomic schema database user name.
- $ATOMICSCHEMA_PASSWORD$ should be replaced by Atomic schema database password.
- $JDBC_CONNECTION_URL should be replaced by JDBC connection string `jdbc:Oracle:thin:<IP>:<PORT>:<SID>`. For example, `jdbc:oracle:thin 10.80.50.53:1521:soluint`

5.2 Configuring Web Application Servers

This section will guide you on the necessary steps to configure the different web application servers for OFSAA Infrastructure deployment:

- Configuring IBM WebSphere Application Server
- Configuring Oracle WebLogic Server
- Configuring Apache Tomcat Server

5.2.1 Configuring IBM WebSphere Application Server

This section is applicable only when the Web Application Server type is WebSphere.

5.2.1.1 Create WebSphere EAR File

The EAR files are required to assemble servlets, .jsp files, web pages, and other static content into a deployable unit. The EAR file is created to reflect the changes made to the **web.xml** file.

Refer to the following steps:

1. Navigate to the "`$FIC_WEB_HOME`" directory on the machine in which Infrastructure Web components have been installed and execute the command:

   ```
   ./ant.sh
   ```

   This triggers the creation of EAR file - `<contextname>.ear`. The <contextname> is the name given during installation.

2. On completion of the EAR files creation, the "BUILD SUCCESSFUL" and "Time taken" message is displayed and you will be returned to the prompt.

   The EAR file - `<contextname>.ear` - is created on the machine on which Infrastructure Web components are installed under `"$FIC_WEB_HOME"` directory.

Note: This process overwrites any existing version of EAR file that exists in the path.

5.2.1.2 Deploy WebSphere EAR Files

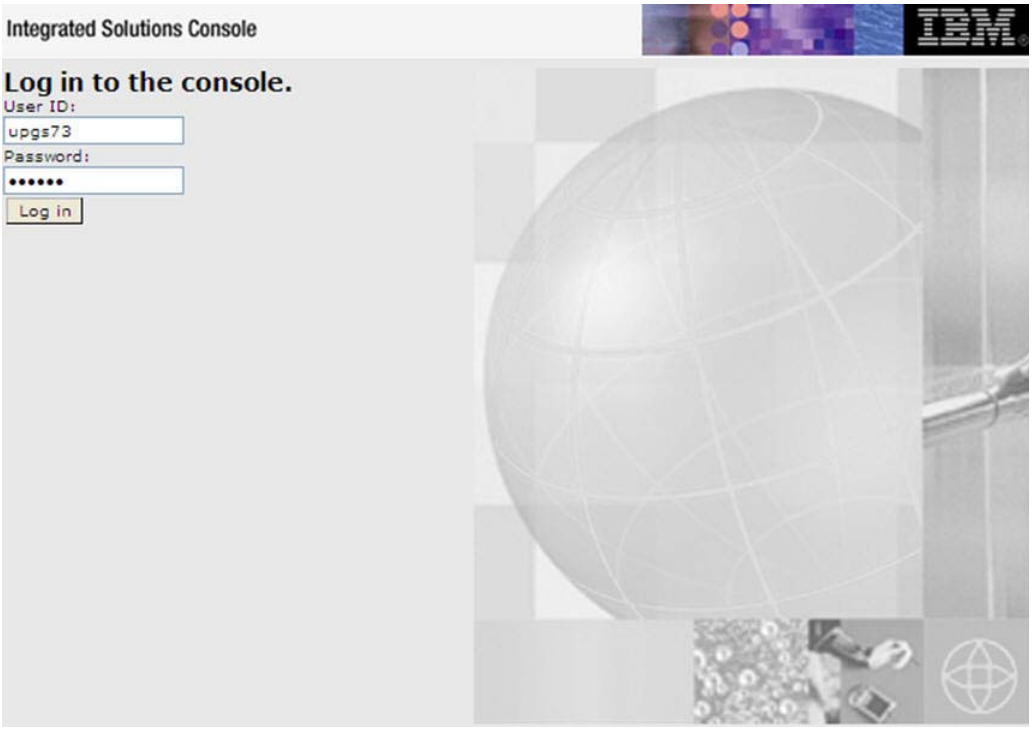
To deploy Infrastructure application in WebSphere:

1. Start WebSphere Profile by navigating to the path "`/<Websphere_Installation_Directory>/IBM/WebSphere/AppServer/profiles/<Profile_Name>/bin/`" and execute the command:

   ```
   ./startServer.sh server1
   ```

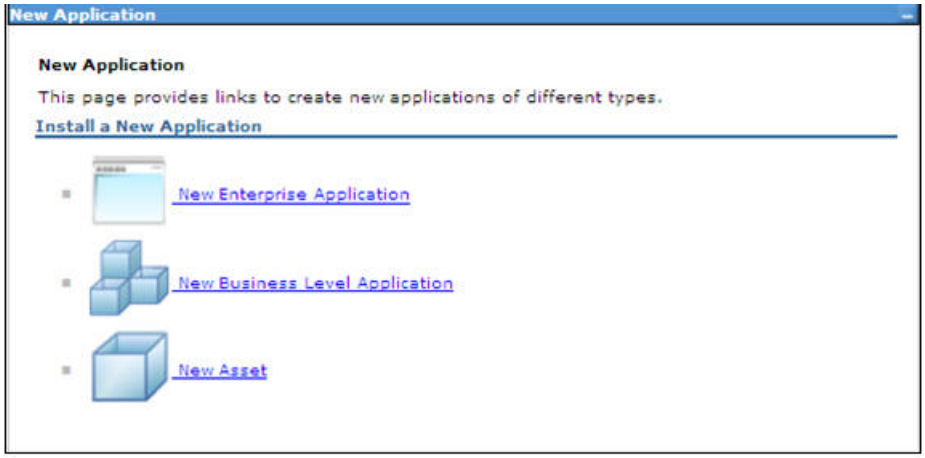
2. Open the following URL in the browser: `http://<ipaddress>:<Administrative Console Port>/ibm/console`. (https if SSL is enabled). The login screen is displayed.

Figure 5–29 *Login Window*



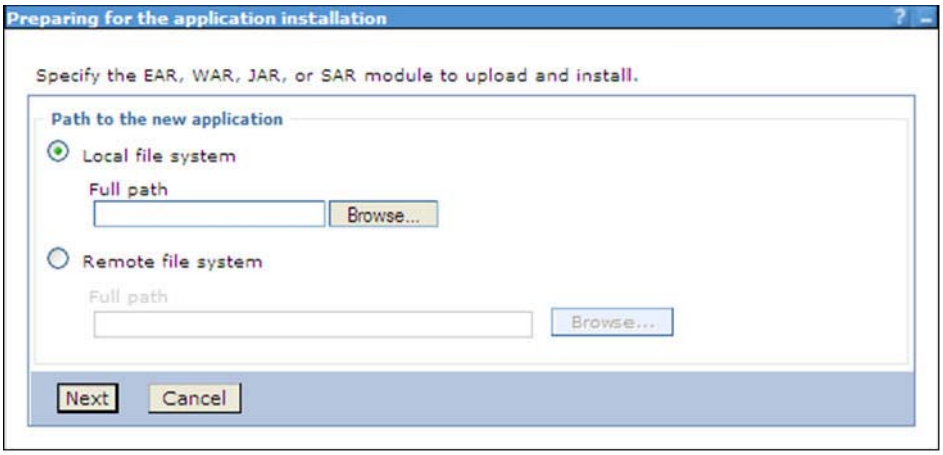
3. Enter the user credentials which has administrator rights and click **Log In**.
4. From the LHS menu, select **Applications** and click **New Application**. The *New Application* window is displayed.

Figure 5–30 *New Application*


New Application
New Application
This page provides links to create new applications of different types.
Install a New Application
New Enterprise Application
New Business Level Application
New Asset

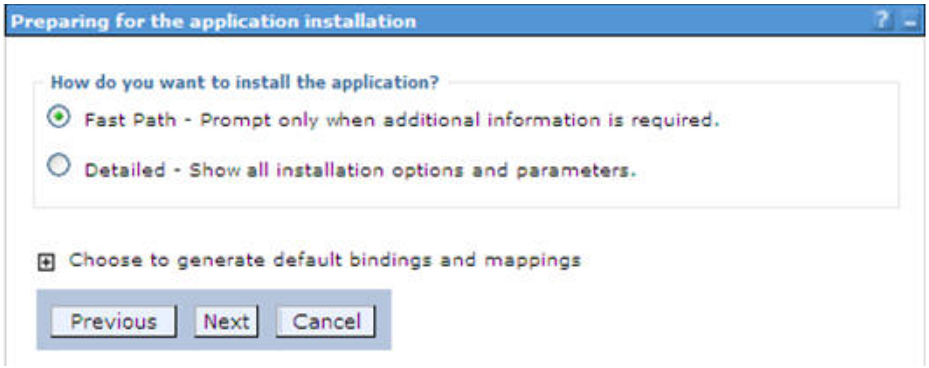
5. Click **New Enterprise Application**. The *Preparing for the application installation* window is displayed.

Figure 5–31 *Preparing for the application installation*



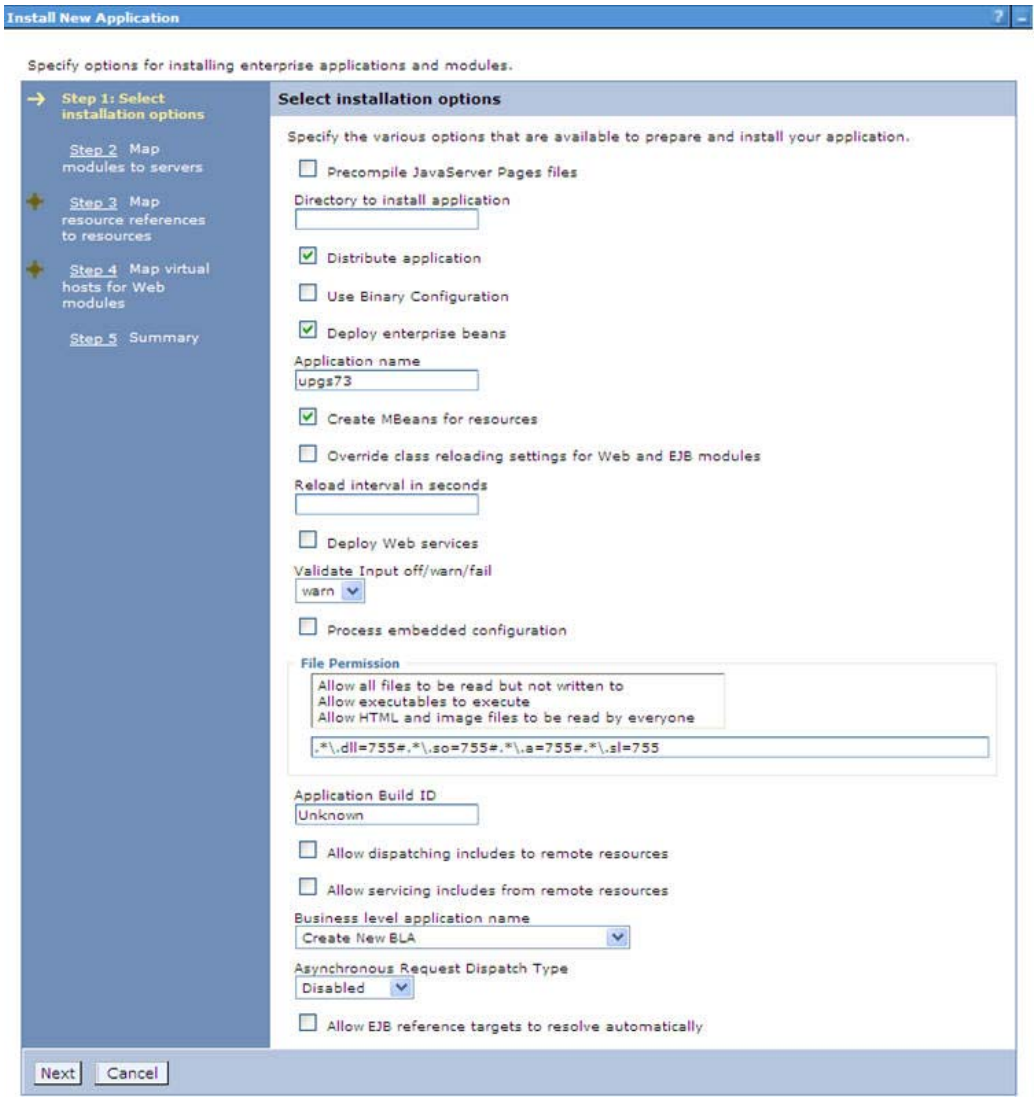
6. Select **Remote File System** and click **Browse**. Select the EAR file generated for OFSAAI to upload and install. Click **Next**.

Figure 5–32 *Installation Options*


Preparing for the application installation
How do you want to install the application?
Fast Path - Prompt only when additional information is required.
Detailed - Show all installation options and parameters.
Choose to generate default bindings and mappings
Previous
Next
Cancel

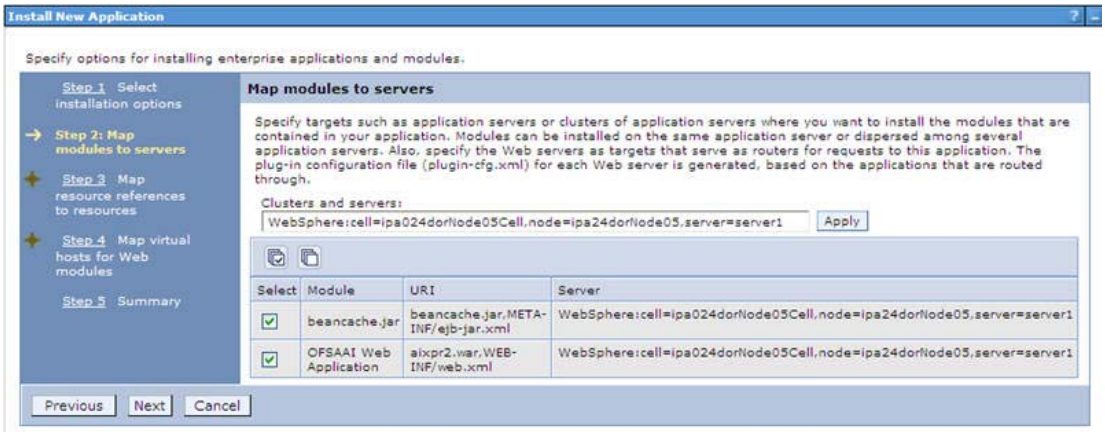
7. Select the **Fast Path** option and click **Next**. The *Install New Application* window is displayed.

Figure 5–33 *Install New Application*


Install New Application
Specify options for installing enterprise applications and modules.
Step 1: Select installation options
Step 2 Map modules to servers
Step 3 Map resource references to resources
Step 4 Map virtual hosts for Web modules
Step 5 Summary
Select installation options
Specify the various options that are available to prepare and install your application.
Precompile JavaServer Pages files
Directory to install application
Distribute application
Use Binary Configuration
Deploy enterprise beans
Application name
upgs73
Create MBeans for resources
Override class reloading settings for Web and EJB modules
Reload interval in seconds
Deploy Web services
Validate Input off/warn/fail
warn
Process embedded configuration
File Permission
Allow all files to be read but not written to
Allow executables to execute
Allow HTML and image files to be read by everyone
.*\.dll=755#.*\.so=755#.*\.a=755#.*\.sl=755
Application Build ID
Unknown
Allow dispatching includes to remote resources
Allow servicing includes from remote resources
Business level application name
Create New BLA
Asynchronous Request Dispatch Type
Disabled
Allow EJB reference targets to resolve automatically
Next
Cancel

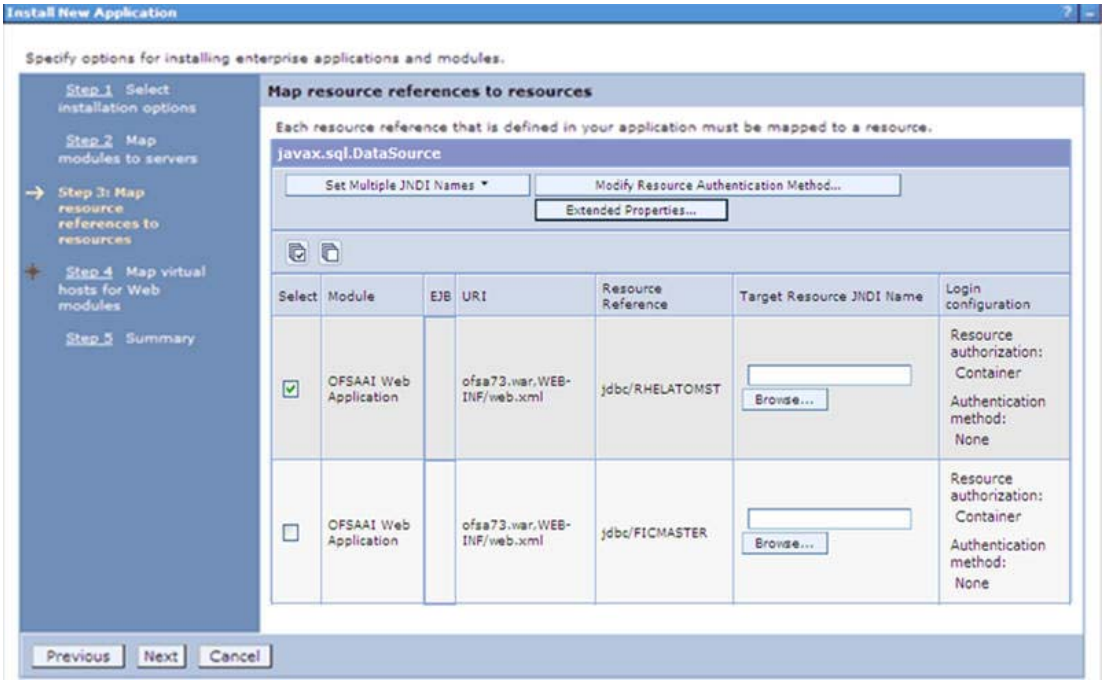
8. Enter the required information and click **Next**. The *Map Modules to Servers* window is displayed.

Figure 5–34 *Map Modules to Servers*


Install New Application
Specify options for installing enterprise applications and modules.
Step 1 Select installation options
Step 2: Map modules to servers
Step 3 Map resource references to resources
Step 4 Map virtual hosts for Web modules
Step 5 Summary
Map modules to servers
Specify targets such as application servers or clusters of application servers where you want to install the modules that are contained in your application. Modules can be installed on the same application server or dispersed among several application servers. Also, specify the Web servers as targets that serve as routers for requests to this application. The plug-in configuration file (plugin-cfg.xml) for each Web server is generated, based on the applications that are routed through.
Clusters and servers:
WebSphere:cell=ipa024dorNode05Cell,node=ipa24dorNode05,server=server1
Apply
Select
Module
URI
Server
beancache.jar
beancache.jar,META-INF/ejb-jar.xml
WebSphere:cell=ipa024dorNode05Cell,node=ipa24dorNode05,server=server1
OFSAAI Web Application
aixpr2.war,WEB-INF/web.xml
WebSphere:cell=ipa024dorNode05Cell,node=ipa24dorNode05,server=server1
Previous
Next
Cancel

9. Select the **Web Application** and click **Next**. The *Map Resource References to Resources* window is displayed.

Figure 5–35 *Map Resource References to Resources*



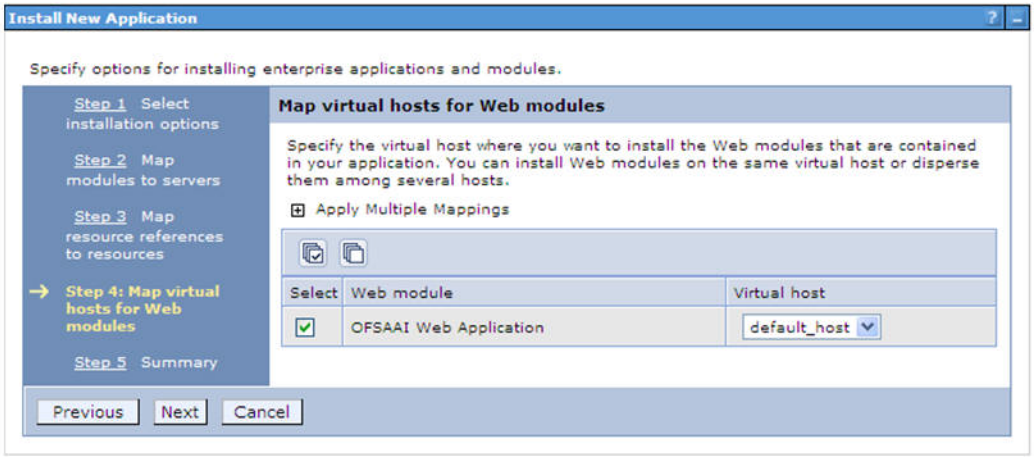
10. Map each resource defined in the application to a resource JNDI name defined earlier.

11. Click **Modify Resource Authentication Method** and specify the authentication method created earlier.

You can specify "config" for FICMASTER resource or "atomic" for atomic resource as the authentication method.

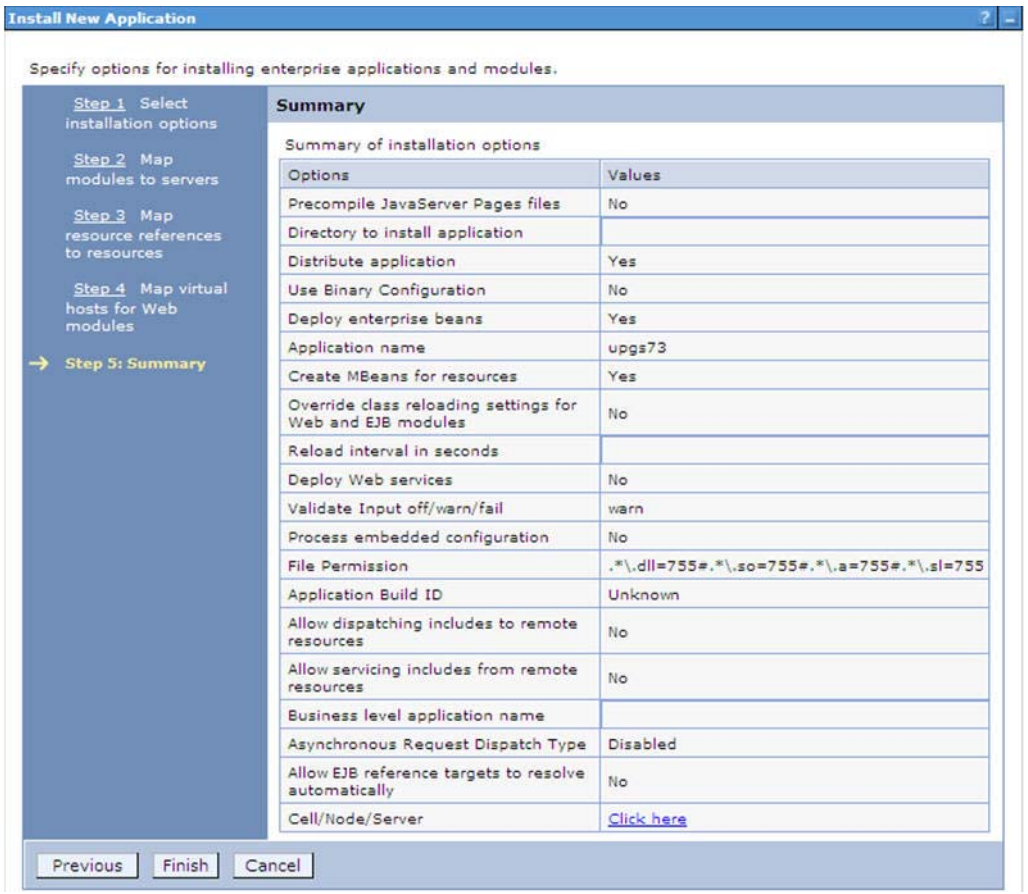
12. Select the **OFSAAI Web Application** check box and click **Next**. The *Map Virtual hosts for Web Modules* window is displayed.

Figure 5–36 *Map Virtual host for Web Modules*


Install New Application
Specify options for installing enterprise applications and modules.
Step 1 Select installation options
Step 2 Map modules to servers
Step 3 Map resource references to resources
Step 4: Map virtual hosts for Web modules
Step 5 Summary
Map virtual hosts for Web modules
Specify the virtual host where you want to install the Web modules that are contained in your application. You can install Web modules on the same virtual host or disperse them among several hosts.
Apply Multiple Mappings
Select
Web module
Virtual host
OFSAAI Web Application
default_host
Previous
Next
Cancel

13. Select the **Web Application** check box and click **Next**. The *Summary* page is displayed.

Figure 5–37 *Summary*



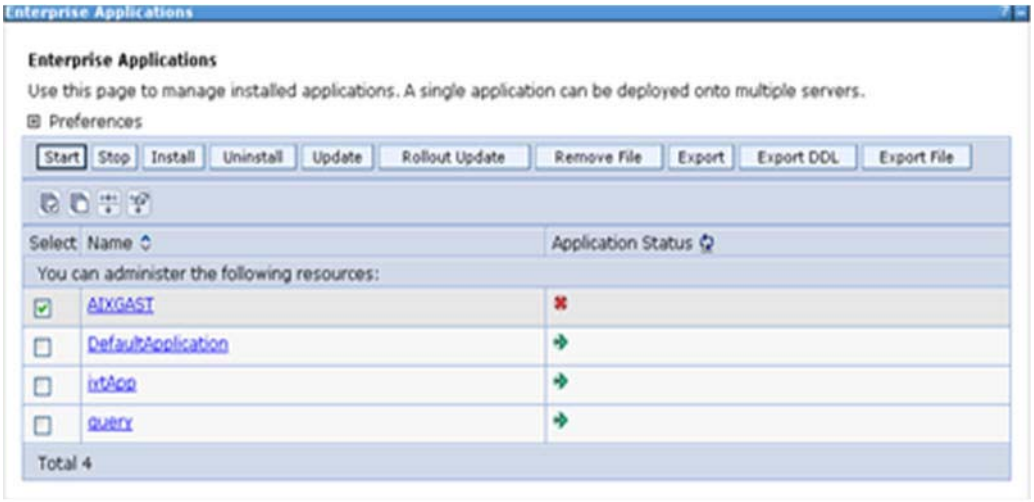
14. Click **Finish** and deploy the Infrastructure Application on WebSphere.

15. On successful installation, a message is displayed. Click **Save** and save the master file configuration. The details are displayed in the *Master File Configuration* window.

To start the application:

1. Expand **Applications** > **Application Type** > **WebSphere enterprise applications**. The *Enterprise Applications* window is displayed.

Figure 5–38 *Enterprise Applications*



2. Select the installed application and click **Start**.

Note:

- <profile name> is the profile name given while creating the WebSphere profile.
- <cell name > is the cell name given during profile creation
- <contextname> is the context name given during installation.

5.2.1.3 WebSphere HTTPS Configuration

Following are the steps for configuring an HTTPS Transport on WebSphere:

1. Create a profile using the *Profile Creation Wizard* in WebSphere.
2. Note down the https port specified during this process and use the same as servlet port or web server port during OFSAAI installation.
3. To enable https configuration on Infrastructure, assign value 1 to "`HTTPS_ENABLE`" in OFSAAI_InstallConfig.xml for Silent mode OFSAAI installation. See Appendix A.1, "OFSAAI_InstallConfig.xml and OFSAAI_PostInstallConfig.xml Parameters"

5.2.2 Configuring Oracle WebLogic Server

This section is applicable only when the Web Application Server type is Oracle WebLogic.

5.2.2.1 Create EAR / WAR file for WebLogic

The EAR files are required to assemble servlets, .jsp files, web pages and other static content into a deployable unit. This EAR file creation is required to reflect the changes made to the **web.xml** file.

Follow the steps outlined below:

1. Navigate to the path "`<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/bin/`".
2. Start WebLogic Domain by executing the command:

   `./startWeblogic.sh -d64`
3. Navigate to the "`$FIC_WEB_HOME`" directory in the machine in which Infrastructure Web components have been installed.
4. Execute the command:

   `./ant.sh`

   This will trigger the creation of EAR file - `<contextname>.ear`. Here <contextname> is the context name given during installation.
5. On completion of the EAR files creation, the "BUILD SUCCESSFUL" and "Time Taken" message is displayed and you will be returned to the prompt.
6. The EAR file - `<contextname>.ear` - is created on the machine on which Infrastructure Web components are installed under "`$FIC_WEB_HOME`" directory.

Note: This process overwrites any existing version of EAR file in the path.

5.2.2.2 Deploy EAR / WAR file for WebLogic

Following are the steps for deploying Infrastructure application that would be created during installation:

1. Navigate to the path "`<WebLogic Installation directory>/user_projects/domains/<domain name>/bin`" in the machine in which WebLogic is installed.
2. Start WebLogic by executing the command:

   `./startWebLogic.sh -d64 file`
3. Open the URL in the browser window: http://<ipaddress>:<admin server port>/console. (https if SSL is enabled). The Sign in window of the WebLogic Server Administration Console is displayed.

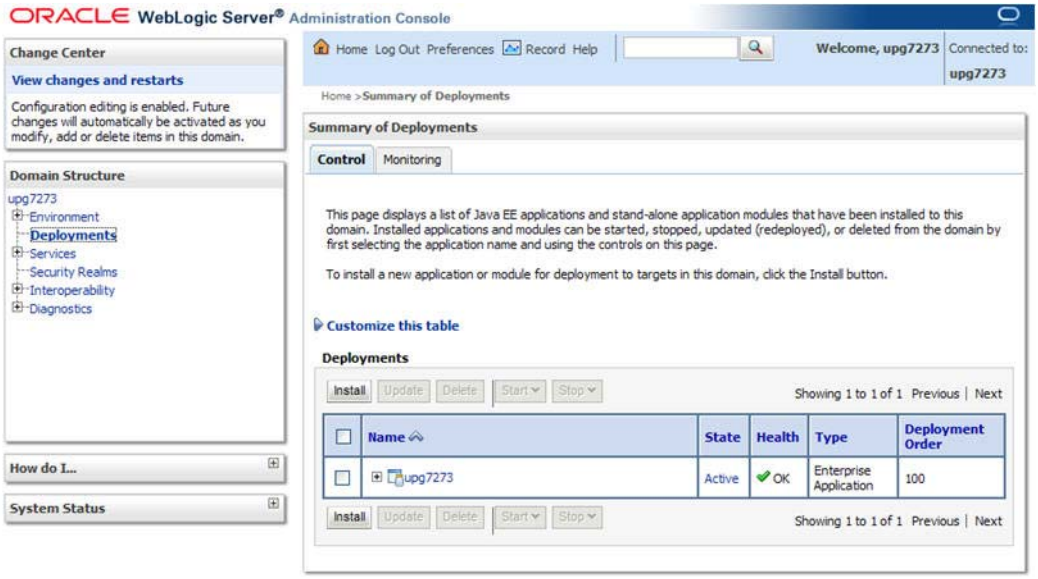
Note: Ensure that you have started Infrastructure Server by executing "`./reveleusstartup.sh`" as mentioned in Start Infrastructure section.

---

4. Log on to the WebLogic Server by entering the user credentials having privileges to deploy the EAR file.

5. From the **Domain Structure** LHS menu, click **Deployments**. The *Summary of Deployments* window is displayed.

Figure 5–39 *Summary of Deployments*


ORACLE WebLogic Server® Administration Console
Change Center
View changes and restarts
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.
Domain Structure
upg7273
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
System Status
Home Log Out Preferences Record Help
Welcome, upg7273
Connected to: upg7273
Home >Summary of Deployments
Summary of Deployments
Control
Monitoring
This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.
To install a new application or module for deployment to targets in this domain, click the Install button.
Customize this table
Deployments
Install
Update
Delete
Start
Stop
Showing 1 to 1 of 1 Previous | Next
Name
State
Health
Type
Deployment Order
upg7273
Active
OK
Enterprise Application
100

6. Click **Install**. The *Install Application Assistant* window is displayed.
7. Select the Exploded EAR directory after browsing to the directory where it is saved and click **Next**.

Explode EAR

To explode EAR, follow the below steps:

1. Create the "applications" folder under domain name. For example, "`/Bea/user_projects/domains/ <Domain _name>/applications`".
2. Create `<context_name>.ear` folder under "applications" folder.
3. Copy the `<$FIC_WEB_HOME/<context_name>.ear` file to `<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/`.
4. Explode the `<context_name>.ear` file by executing the command:

   ```
   jar -xvf <context_name>.ear
   ```

5. Delete the `<context>.ear` and `< context >.war` file (recently created).
6. Create a directory `<context_name>.war` under `<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications`.
7. Copy `<$FIC_WEB_HOME/<context_name>.war` file to `<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear/`.
8. Explode the `<context_name>.war` file by executing the following command to get the directory structure:

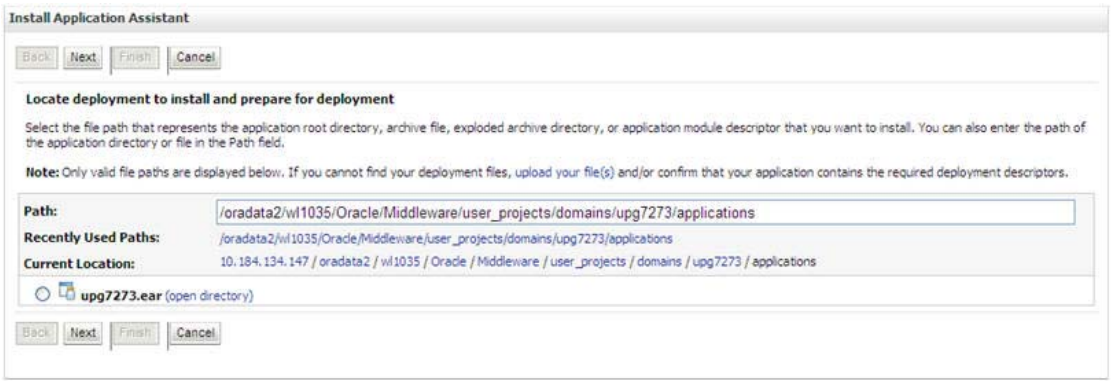
   ```
   jar -xvf <context_name>.war
   ```

Install Application

To install Application:

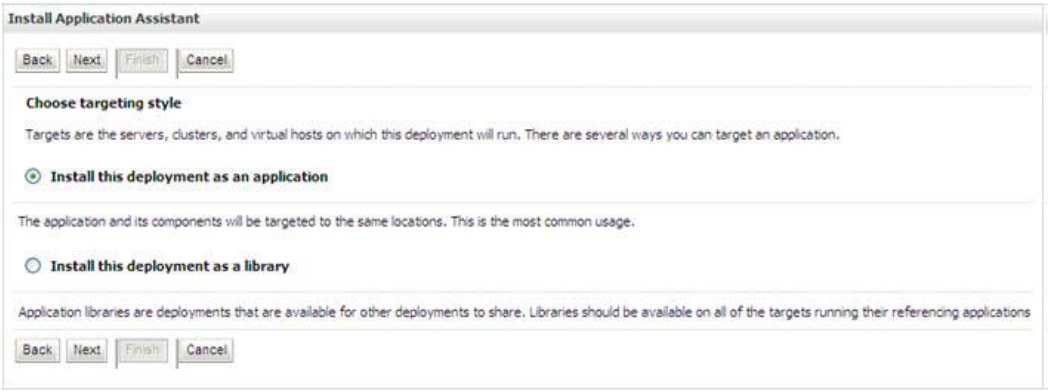
1. Open the Install Application Assistant.

Figure 5–40 *Install Application Assistant*


Install Application Assistant
Back
Next
Finish
Cancel
Locate deployment to install and prepare for deployment
Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path of the application directory or file in the Path field.
Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors.
Path:
/oradata2/wl1035/Oracle/Middleware/user_projects/domains/upg7273/applications
Recently Used Paths:
/oradata2/wl1035/Oracle/Middleware/user_projects/domains/upg7273/applications
Current Location:
10.184.134.147 / oradata2 / wl1035 / Oracle / Middleware / user_projects / domains / upg7273 / applications
upg7273.ear (open directory)
Back
Next
Finish
Cancel

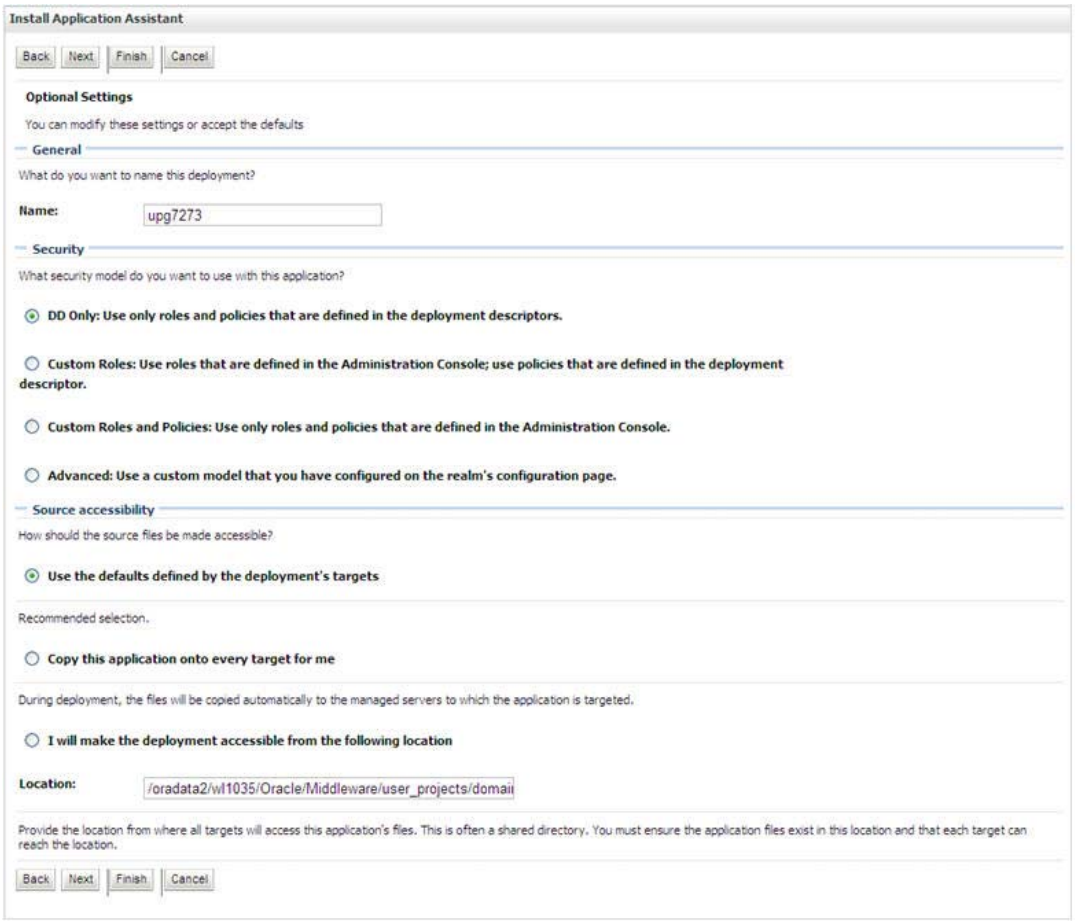
2. Click **Next**.

Figure 5–41 *Install Application Assistant*


Install Application Assistant
Back
Next
Finish
Cancel
Choose targeting style
Targets are the servers, clusters, and virtual hosts on which this deployment will run. There are several ways you can target an application.
Install this deployment as an application
The application and its components will be targeted to the same locations. This is the most common usage.
Install this deployment as a library
Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications
Back
Next
Finish
Cancel

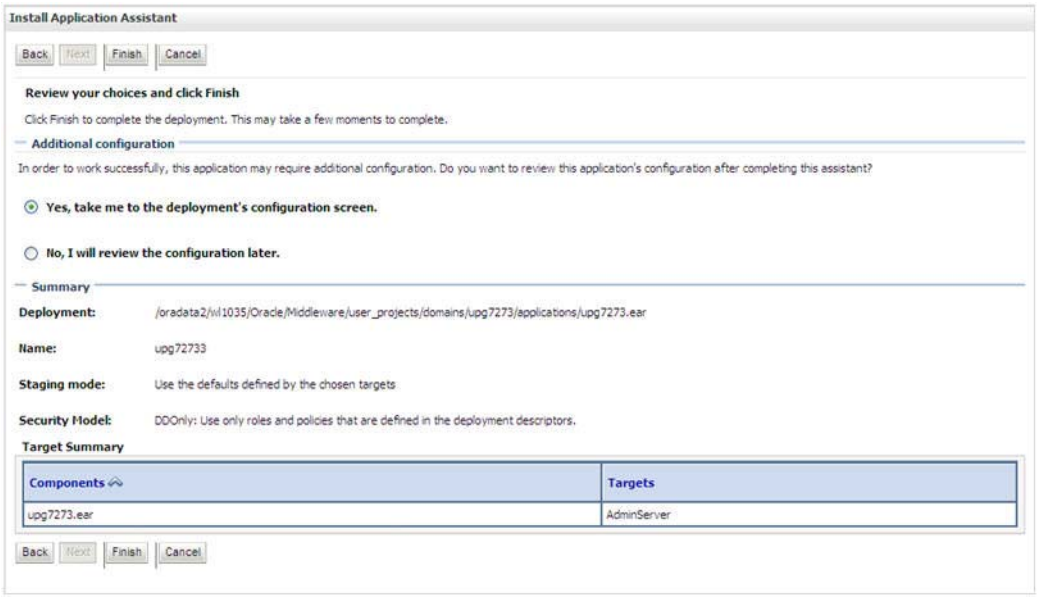
3. From the *Choose targeting style* section, select the **Install this deployment as an application** option and click **Next**. The *Optional Settings* window is displayed.

Figure 5–42 *Optional Settings*


Install Application Assistant
Back
Next
Finish
Cancel
Optional Settings
You can modify these settings or accept the defaults
General
What do you want to name this deployment?
Name:
upg7273
Security
What security model do you want to use with this application?
DD Only: Use only roles and policies that are defined in the deployment descriptors.
Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.
Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.
Advanced: Use a custom model that you have configured on the realm's configuration page.
Source accessibility
How should the source files be made accessible?
Use the defaults defined by the deployment's targets
Recommended selection.
Copy this application onto every target for me
During deployment, the files will be copied automatically to the managed servers to which the application is targeted.
I will make the deployment accessible from the following location
Location:
/oradata2/wl1035/Oracle/Middleware/user_projects/domai
Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the application files exist in this location and that each target can reach the location.
Back
Next
Finish
Cancel

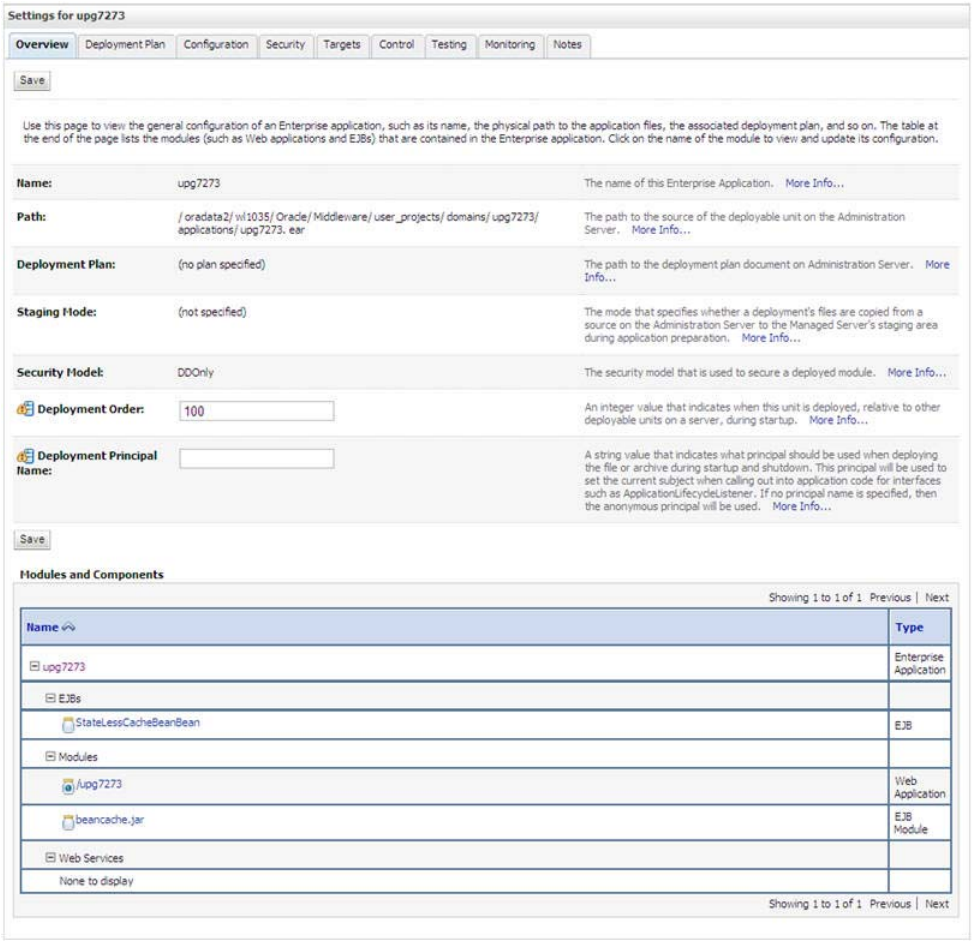
4. Enter a **Name** for the deployment if required.
5. Under the *Security* section, select the **DD only** option to specify that only roles and policies that are defined in the deployment descriptors should be used.
6. Select the **I will make the deployment available from the following location** option under the *Source accessibility* section.
7. Click **Next** to continue. The *Deployment Summary* window is displayed.

Figure 5–43 *Deployment Summary*



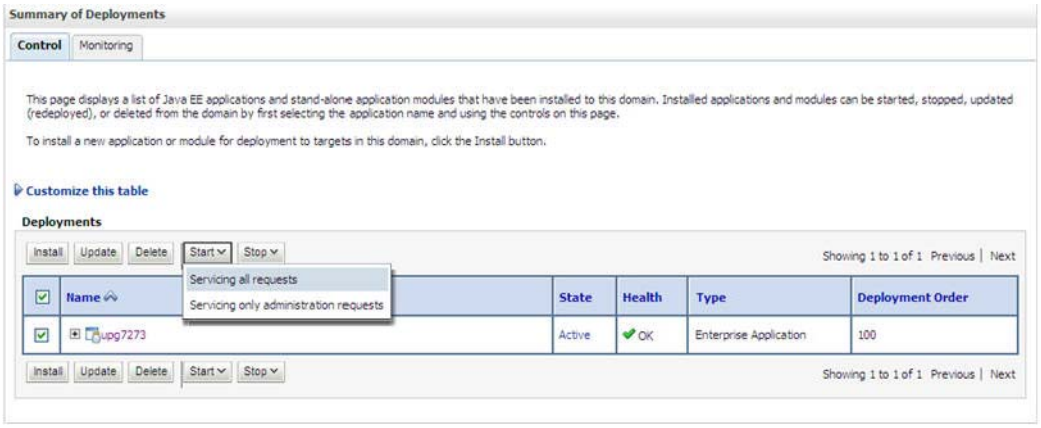
8. Select the **Yes, take me to the deployment's configuration screen** option and click **Finish**. The *Settings for <Deployment Name>* window is displayed.

Figure 5–44 *Settings for <Deployment Name>*


Settings for upg7273
Overview
Deployment Plan
Configuration
Security
Targets
Control
Testing
Monitoring
Notes
Save
Use this page to view the general configuration of an Enterprise application, such as its name, the physical path to the application files, the associated deployment plan, and so on. The table at the end of the page lists the modules (such as Web applications and EJBs) that are contained in the Enterprise application. Click on the name of the module to view and update its configuration.
Name:
upg7273
The name of this Enterprise Application. More Info...
Path:
/oradata2/wl1035/Oracle/Middleware/user_projects/domains/upg7273/applications/upg7273.ear
The path to the source of the deployable unit on the Administration Server. More Info...
Deployment Plan:
(no plan specified)
The path to the deployment plan document on Administration Server. More Info...
Staging Mode:
(not specified)
The mode that specifies whether a deployment's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. More Info...
Security Model:
DDOnly
The security model that is used to secure a deployed module. More Info...
Deployment Order:
100
An integer value that indicates when this unit is deployed, relative to other deployable units on a server, during startup. More Info...
Deployment Principal Name:
A string value that indicates what principal should be used when deploying the file or archive during startup and shutdown. This principal will be used to set the current subject when calling out into application code for interfaces such as ApplicationLifecycleListener. If no principal name is specified, then the anonymous principal will be used. More Info...
Save
Modules and Components
Showing 1 to 1 of 1 Previous | Next
Name
Type
upg7273
Enterprise Application
EJBs
StateLessCacheBeanBean
EJB
Modules
/upg7273
Web Application
beancache.jar
EJB Module
Web Services
None to display
Showing 1 to 1 of 1 Previous | Next

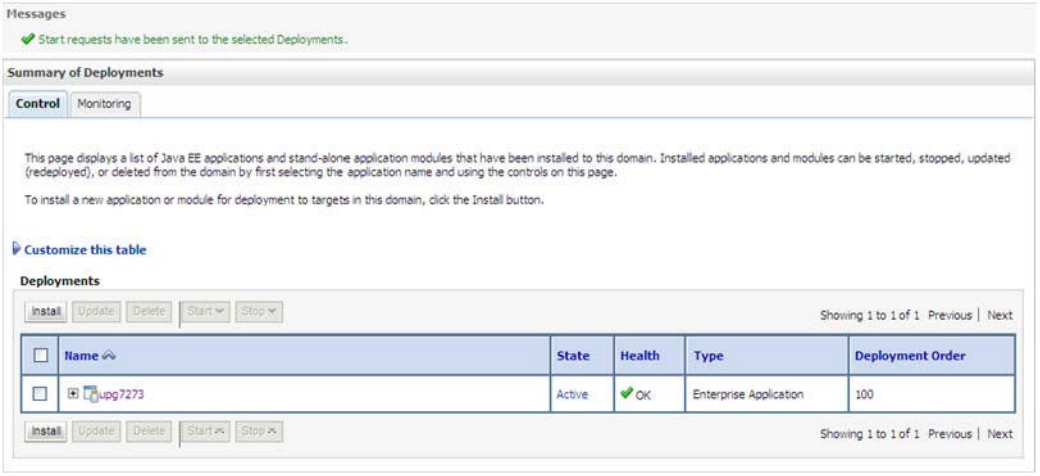
9. Review the general configuration details of the deployment. You can also update the configuration of the deployment in this window. In the *Overview* tab you can view the complete deployment configuration.
10. Click **Save** to update the changes, if any.
11. From the LHS menu, click **Deployments**. The *Summary of Deployments* window is displayed.

Figure 5–45 *Summary of Deployments*


Summary of Deployments
Control
Monitoring
This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.
To install a new application or module for deployment to targets in this domain, click the Install button.
Customize this table
Deployments
Install
Update
Delete
Start
Stop
Showing 1 to 1 of 1 Previous | Next
Servicing all requests
Servicing only administration requests
Name
State
Health
Type
Deployment Order
upg7273
Active
OK
Enterprise Application
100

12. Select the newly deployed Infrastructure application and click **Start** > **Servicing all requests**. Ensure that the Infrastructure server is up and running.

Figure 5–46 *Summary of Deployments*


Messages
Start requests have been sent to the selected Deployments.
Summary of Deployments
Control
Monitoring
This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.
To install a new application or module for deployment to targets in this domain, click the Install button.
Customize this table
Deployments
Install
Update
Delete
Start
Stop
Showing 1 to 1 of 1 Previous | Next
Name
State
Health
Type
Deployment Order
upg7273
Active
OK
Enterprise Application
100

The **State** of the deployed application will be displayed as **Active** if started successfully.

5.2.2.3 WebLogic HTTPS Configuration

Following are the steps for configuring an HTTPS Transport on WebLogic:

1. Create a domain using the *Domain Creation Wizard* in WebLogic.

> **Note:** Note down the HTTPS port specified during this process and use the same as servlet port or web server port during OFSAAI Installation.

2. To enable https configuration on Infrastructure, assign value **1** to "`HTTPS_ENABLE`" in *OFSAAI_InstallConfig.xml* for silent mode OFSAAI installation. See Appendix A.1, "OFSAAI_InstallConfig.xml and OFSAAI_PostInstallConfig.xml Parameters".

5.2.3 Configuring Apache Tomcat Server

This section is applicable only when the Web Application Server type is Tomcat.

5.2.3.1 Configuring jaxrpc.jar

Copy the `jaxrpc.jar` from the `<OFSAAI Installation Directory >/axis-1_4/webapps/axis/WEB-INF/lib` and place it in under `<Tomcat Installation Directory>/lib`.

5.2.3.2 Tomcat User Administration

The Tomcat administration and manager application does not provide a default login. You are required to edit "`$CATALINA_HOME/conf/tomcat-users.xml`" as instructed below.

This file contains an XML <user> for each individual user, which will display the username and password used by admin to log on to Tomcat, and the role names to which the admin user is associated with. For example, <user name="admin" password="admin" roles="standard,manager" />

1. Add the manager role to any one of the existing username/password combination as shown in the example above.
2. Use the same username/password to which the manager role has been assigned to access the Tomcat Application Manager.
3. If the Tomcat server is already running, it requires a re-start after the above configuration is done.

5.2.3.3 Configure Tomcat to use JAVA 64 bit Executables

1. Navigate to the "`$CATALINA_HOME/bin`" folder.
2. Edit the setclasspath.sh as explained below:
3. Under 'Set standard commands for invoking Java', change "`$JAVA_HOME`"/bin to "`$JAVA_BIN`".

Example:

Edit the following block of text:

```
# Set standard commands for invoking Java.

_RUNJAVA="$JAVA_HOME"/bin/java

if [ "$os400" != "true" ]; then

_RUNJDB="$JAVA_HOME"/bin/jdb
```

Change it to:

```
# Set standard commands for invoking Java.

_RUNJAVA="$JAVA_BIN"/java

if [ "$os400" != "true" ]; then

_RUNJDB="$JAVA_BIN"/jdb
```

If the Tomcat server is already running, it requires a re-start after the above configuration is done.

5.2.3.4 Configure Servlet Port

The Servlet Port specified during the Infrastructure installation process must be configured if your Web Application Server is Tomcat. If you are using the default port (8080), then you are not required to configure the same, since it is already configured.

If you are using a different port number, you must first configure the port in the "server.xml" in the "conf" directory of Tomcat Installation directory. The following steps guide you through the configuration process:

1. Navigate to $CATALINA_HOME/conf. Open server.xml and locate the tag:

   "Define a non-SSL HTTP/1.1 Connector on port 8080 "

2. Against this tag, a parameter is specified 'Connector port = "8080" '. Edit this value to the new port number that was used during the Infrastructure installation process.
3. Save your changes in "server.xml".

5.2.3.5 Create Tomcat WAR Files

The WAR files are required to assemble servlets, .jsp files, web pages, and other static content into a deployable unit.

The following steps will guide you through the WAR files creation process:

1. On the machine in which Infrastructure Web components have been installed, navigate to the path $FIC_WEB_HOME.
2. Execute the command:

   ./ant.sh

   This will trigger the creation of WAR file - <contextname>.war. The <contextname> is the name given during installation.
3. On completion of the WAR files creation, a confirmation message will be displayed and you will be returned to the prompt.
4. The WAR file - <contextname>.war- is created on the machine on which Infrastructure Web components are installed under $FIC_WEB_HOME directory.

Note the following:

- This process will not overwrite any existing version of WAR file that exists in the path. Rename/delete any existing war file.
- Proceed with the Tomcat WAR Files Deployment.
- Log on to the server in which Tomcat is installed.

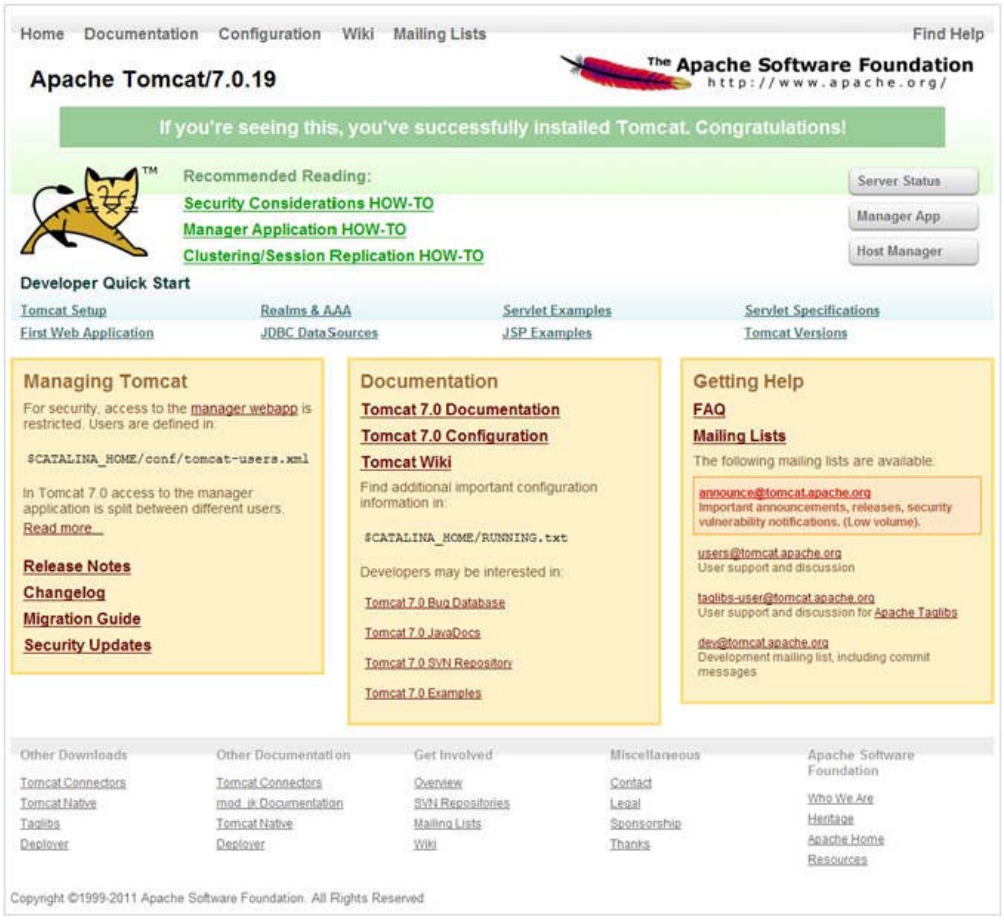
5.2.3.6 Deploy Tomcat WAR Files

Before deploying the WAR files, ensure that the previously deployed applications of Infrastructure are uninstalled. See *Uninstalling Previously Deployed WAR Files in Tomcat* for the procedure to uninstall the previously deployed Infrastructure war files.

On the machine that hosts Tomcat, follow the steps outlined to deploy Infrastructure application:

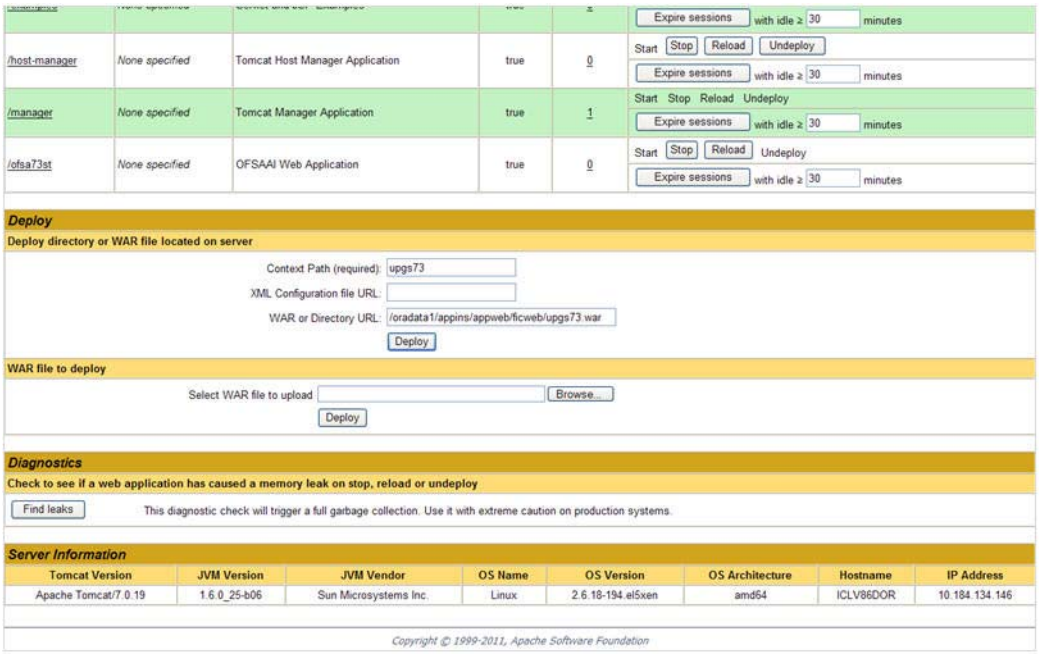
1. Open the URL in Browser window: http://<IP address>:<Tomcat server port>. (https if SSL is enabled). The *Tomcat home* window is displayed.

Figure 5–47 *Tomcat home*



2. Click **Manager App**. The *Connect to* dialog is displayed.
3. Enter the **User Id** and **Password** that has admin rights and click **OK**. (For user creation in tomcat, see "Tomcat User Administration". The *Tomcat Web Application Manager* window is displayed with the list of all the applications deployed.

Figure 5–48 *Tomcat Web Application Manager*


Expire sessions with idle ≥ 30 minutes
/host-manager None specified Tomcat Host Manager Application true 0
Start Stop Reload Undeploy
Expire sessions with idle ≥ 30 minutes
/manager None specified Tomcat Manager Application true 1
Start Stop Reload Undeploy
Expire sessions with idle ≥ 30 minutes
/ofsa73st None specified OFSAAI Web Application true 0
Start Stop Reload Undeploy
Expire sessions with idle ≥ 30 minutes
Deploy
Deploy directory or WAR file located on server
Context Path (required): upgs73
XML Configuration file URL:
WAR or Directory URL: /oradata1/appins/appweb/ficweb/upgs73.war
Deploy
WAR file to deploy
Select WAR file to upload
Browse...
Deploy
Diagnostics
Check to see if a web application has caused a memory leak on stop, reload or undeploy
Find leaks
This diagnostic check will trigger a full garbage collection. Use it with extreme caution on production systems.
Server Information
Tomcat Version JVM Version JVM Vendor OS Name OS Version OS Architecture Hostname IP Address
Apache Tomcat/7.0.19 1.6.0_25-b06 Sun Microsystems Inc. Linux 2.6.18-194.el5xen amd64 ICLV86DOR 10.184.134.146
Copyright © 1999-2011, Apache Software Foundation

4. In the *Deploy* section, enter the **Context Path** provided during the installation as "/<context-name>".
5. Enter the path where the `<context-name>.war` file resides (by default "`$FIC_WEB_HOME/<context-name.war>`") in the **WAR or Directory URL** field and click **Deploy**.

On successful application deployment, a confirmation message is displayed.

For information on starting the Tomcat server, see Section 6.1, "Starting Infrastructure".

5.2.3.7 Non-SSL Port Configuration

Ensure that the following connect tag under "`Define a non-SSL HTTP/1.1 Connector on port 8080`" in `<Tomcat_installation_folder>/conf/server.xml` file is uncommented for Non-SSL Configuration. (By default, it is uncommented.)

```
 <Connector port="8080" protocol="HTTP/1.1"

connectionTimeout="20000"

redirectPort="8443" />
```

> **Note:** To disable connection timeouts, set "`connectionTimeout`" value to -1. The port mentioned as connector port is the Web Application Server port or Servlet port in Infrastructure.

5.2.3.8 SSL Port Configuration

Ensure that the following connect tag under "`Define a SSL HTTP/1/1 Connector on port 8443`" in "`<Tomcat_installation_folder>/conf/server.xml`" file is uncommented for SSL Configuration. (By default, it is commented).

```
<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"

maxThreads="150" scheme="https" secure="true"
```

```
clientAuth="false" sslProtocol="TLS"
```

Note: The port mentioned as connector port is the Web Application Server port or servlet port in Infrastructure.

For more information related to SSL Configuration on Tomcat, refer to http://tomcat.apache.org/.

6

Start / Stop Infrastructure Services

This chapter details about how to start and stop Infrastructure services. This chapter includes the following topics

- Starting Infrastructure
- Stopping Infrastructure

6.1 Starting Infrastructure

Once the installation of Infrastructure has been completed successfully and the post-installation steps are completed, the servers must be started. Log on to each machine and run the `.profile` file. All servers mentioned must be started from the same shell encoding. The servers mentioned below are dependent on each other. It is mandatory to maintain the order in which the servers are started. Allow each of the servers to initialize completely before starting the next server.

1. On the machine in which Infrastructure Application components have been installed, navigate to `$FIC_APP_HOME/common/FICServer/bin` and execute the following command to start the Infrastructure Server.

   ```
   ./reveleusstartup.sh
   ```

Note the following:

- When starting the server for the first time, it must be done in the foreground to answer prompts. Enter the password of the Oracle Configuration Schema, when it prompts for a system password. This password is asked only for the first time of starting Infrastructure server.
- If the Oracle Configuration Schema password is changed, delete the `Reveleus.SEC` file under `$FIC_HOME/conf` and start the server.
- When saving Database Server Details during Infrastructure Configuration, the Infrastructure server must also be started in the foreground (do not use nohup) to answer the following prompt which appears in the Unix server command on Save:

  ```
  The host 10.123.45.678 is currently unknown to the system

  The host key fingerprint is: 1023: 1e 35 46 7f 81 e7 16 6b 33 e8 59 f7
  d cf 5b b1

  Do you want to allow this host key? [Yes|No|Always]:
  ```

  "Always" should be entered when prompted and Save operation will complete successfully in the Database Server Details screen.
- You can also start the Infrastructure Server by executing the command "`nohup ./reveleusstartup.sh &`". Starting the process using "nohup" and "&" will return

the command prompt without having to wait till the process completes. However, this command cannot be used when you are starting the server for the first time or starting after changing user password in the configuration database schema.

2. Select the required webserver start up option from the table below:

Table 6–1 Webserver start up options

Start up Option	Description
Starting WebSphere profile	On the machine in which Web sphere is installed, navigate to `[Webshpere_Install_Directory] /AppServer/<profiles>/<profile name>/bin` and execute the command: `./startServer.sh server1`
Starting WebLogic Domain	On the machine in which WebLogic is installed, navigate to `<WebLogic Installation directory>/user_ projects/domains/<domain name>/bin` and execute the command: `startWebLogic.sh -d64` **Note**: If WebLogic is already running, access the *WebLogic Admin Console*. Stop and start the `application <context name>.ear`
Starting Tomcat Application	On the machine in which Tomcat is installed, navigate to `<Tomcat_Install_ Directory>/bin` and execute the command: `./catalina.sh run`

3. Start ICC server.:

   a. On the machine in which Infrastructure default Application components have been installed, navigate to $FIC_HOME/ficapp/icc/bin and execute the command:

   ```
   ./iccserver.sh
   ```

   Note: Only Infrastructure Default Application Server would hold ICC component..

4. To start Back-end Services:

   a. On the machine on which Infrastructure Database components have been installed, navigate to $FIC_DB_HOME/bin and execute the command to start "Agent server":

   ```
   ./agentstartup.sh
   ```

   Or

   Start Back-end services using the command:

   ```
   nohup ./agentstartup.sh &
   ```

   Note: This agent internally starts the Router, Message Server, OLAP data server and AM services.

5. From a client workstation, open the client browser and provide the URL as `http or https://<IP address>:<servlet port>/<context-name>/login.jsp`.

   For example, `http://11.111.111.111:1111/ofsaai/login.jsp`

Note: If https configuration is enabled, the client browser will need to disable the proxy servers through the client browser's internet options.

The OFSAAI login screen is displayed.

Figure 6–1 *OFSAAI Login window*

There are two in-built system administration users profiles configured in the system:

- SYSADMN
- SYSAUTH

You can login to the system using the "SYSADMN" User ID. (Note that, there is no "I" in the SYSADMN login USER ID). Enter the password that was provided during installation. On the first login, you will be prompted to change the password.

Once you have logged into the Infrastructure system, you need to perform the following additional configurations to setup the OFSAAI environment:

- Define Server Details for Database, Application and Web servers. For information, see "System Configuration > Server Details" section in *OFSAAI 7.3.3.0.0 User Manual* listed in the Related Documents section.
- Add Database Details. For information, see "System Configuration > Database Details" section in *OFSAAI 7.3.3.0.0 User Manual* listed in the Related Documents section..

- Create an Information Domain. For information, see "System Configuration > Information Domain " section in *OFSAAI 7.3.3.0.0 User Manual* listed in the Related Documents section..
- Create a Segment. For information, see "Administration > Security Management > System Administrator > Segment Maintenance" section in *OFSAAI 7.3.3.0.0 User Manual* listed in the Related Documents section..
- Create / Add User with access to all permissions. For information, see "Administration > Security Management > User Administrator" section in *OFSAAI 7.3.3.0.0 User Manual* listed in the Related Documents section..

Note: Each new file that is created in the ftpshare folder of any installation layer should be granted specific / explicit permission. If you encounter any problems during setup, please contact Infrastructure Support.

6.2 Stopping Infrastructure

To stop Infrastructure services:

1. On the machine in which Infrastructure Application components have been installed, navigate to `$FIC_APP_HOME/common/FICServer/bin` and execute the command:.

   ```
   ./reveleusshutdown.sh
   ```

2. To stop ICC server, on the machine in which Infrastructure default Application components have been installed, navigate to `$FIC_HOME/ficapp/icc/bin` and execute the command:

   ```
   ./iccservershutdown.sh
   ```

   Note: Only Infrastructure Default Application Server would hold ICC component.

   ---

3. To stop Back-end server, on the machine in which Infrastructure database components have been installed, navigate to `$FIC_DB_HOME/bin` and execute the command:

   ```
   ./agentshutdown.sh
   ```

7

Verifying the Installation

The `OFSAAI733.log` displays the below statistics on completing the installation:

```
Please refer the Installation summary and tips given below , before proceeding to the Post
Install activities

     INSTALLATION SUMMARY

     FATAL ERRORS     : 0

     ERRORS           : 0

     DEBUG STATEMENTS : 399

     INFORMATIONS     : 255

     WARNINGS         : 0

ERRORS SUMMARY

Tips:

1. In the event if one or more than one FATAL ERRORS exists its mandatory to reinstall Oracle
Financial Services Analytical Applications Infrastructure application.

2. In the event if one or more than one ERRORS exists its preferable to reinstall Oracle
Financial Services Analytical Applications Infrastructure application.

3. In the event if one or more than one DEBUG statements exists its optional on reinstall of
Oracle Financial Services Analytical Applications Infrastructure application and he User could
patch up the installation as required.

4. In the event if one or more than one WARNINGS , to have a confirmatory check done on the
schema creations, insertions and updations.
```

If there are any ERRORS or FATAL ERRORS, report them to Oracle Support or see OFSAA Infrastructure Frequently Asked Questions.

The OFSAA Infrastructure installation performs a post install health check on successful installation of the product. To rerun the post install verification at a later time, perform the following steps:

1. Navigate to `$FIC_HOME`.
2. Execute the command:

   ```
   ./piverify.sh
   ```

> **Note:** This utility is applicable only for base install of the product. This utility should not be run if any patchsets are installed. However, if the installation was completed with POST_INSTALL parameter value as 0 and the Post Installation Configuration was performed manually, we recommend you to run this health check verification utility.

8

Uninstalling OFSAA Infrastructure

This chapter includes the following sections:

- Uninstalling OFSAA Infrastructure
- Uninstalling EAR Files in WebSphere
- Uninstalling EAR Files in WebLogic
- Uninstalling WAR Files in Tomcat

8.1 Uninstalling OFSAA Infrastructure

This section will guide you through the necessary steps to uninstall the OFSAA Infrastructure product.

Before you start the uninstallation process, ensure that no open connections exist to the OFSAA Infrastructure Config and Atomic Schemas and Infrastructure services are brought down.

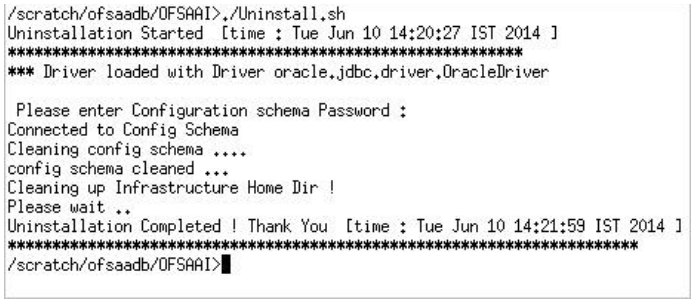
To uninstall OFSAA Infrastructure:

1. Log in to the system as non-root user.
2. Navigate to the `$FIC_HOME` directory and execute the command:

   ```
   ./Uninstall.sh
   ```

3. Enter the password for OFSAAI Configuration Schema when prompted as shown in the following figure.

Figure 8–1 *Uninstalling OFSAA Infrastructure*


/scratch/ofsaadb/OFSAAI>./Uninstall.sh
Uninstallation Started [time : Tue Jun 10 14:20:27 IST 2014]
*** Driver loaded with Driver oracle.jdbc.driver.OracleDriver
Please enter Configuration schema Password :
Connected to Config Schema
Cleaning config schema ....
config schema cleaned ...
Cleaning up Infrastructure Home Dir !
Please wait ..
Uninstallation Completed ! Thank You [time : Tue Jun 10 14:21:59 IST 2014]
/scratch/ofsaadb/OFSAAI>

Note the following:

- Uninstallation does not remove the Infrastructure application from the Web Application Server. This has to be done manually.

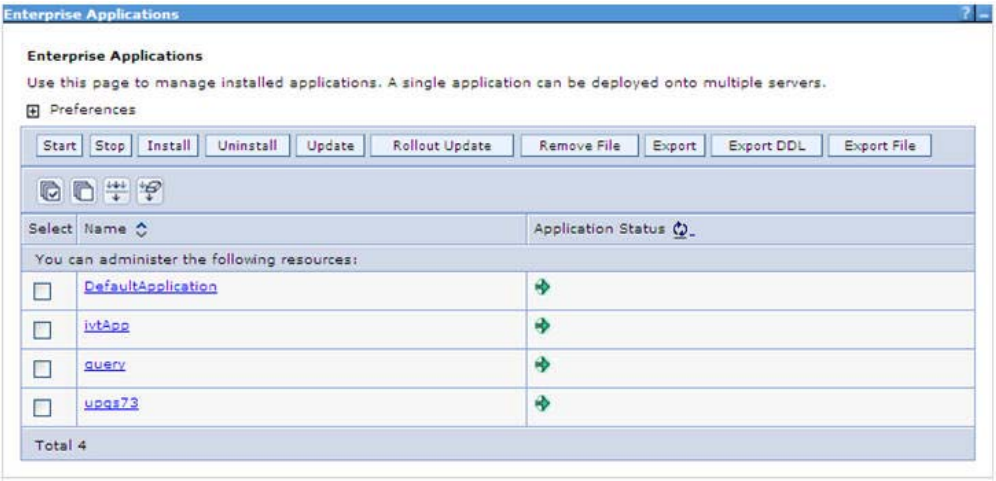
- The entries in the .profile file will have to be removed manually.
- The files/ folders under the file system staging area (ftpshare) have to be deleted manually.
- All the Database objects from Atomic Schemas have to be dropped manually.

8.2 Uninstalling EAR Files in WebSphere

Following are the steps to uninstall any previously deployed application:

1. Open the URL in the browser window: `http://<ipaddress>:<Administrative Console Port>/ibm/console` (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand Applications > Application Types > WebSphere enterprise applications from the LHS. The *Enterprise Applications* window is displayed with all the deployed applications.

Figure 8–2 *Enterprise Applications*



4. Select the checkbox adjacent to the application to be uninstalled and click **Stop**.
5. Click **Uninstall**. The *Uninstall Application* window is displayed.

Figure 8–3 *Uninstall Application*

Uninstall Application
Click OK to remove the following application(s). If you do not want to remove the applications, click Cancel to return to the previous page.
Name
AIXGAST
OK
Cancel

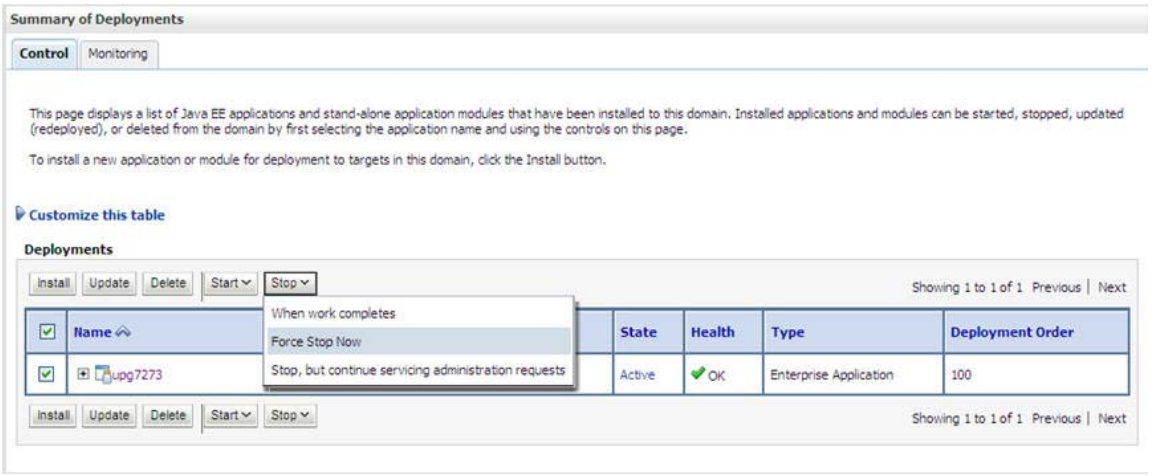
6. Click **OK** to confirm.
7. Click **Save** to save the master file configuration.

8.3 Uninstalling EAR Files in WebLogic

On the machine that hosts WebLogic, perform the following steps to uninstall any previously deployed application:

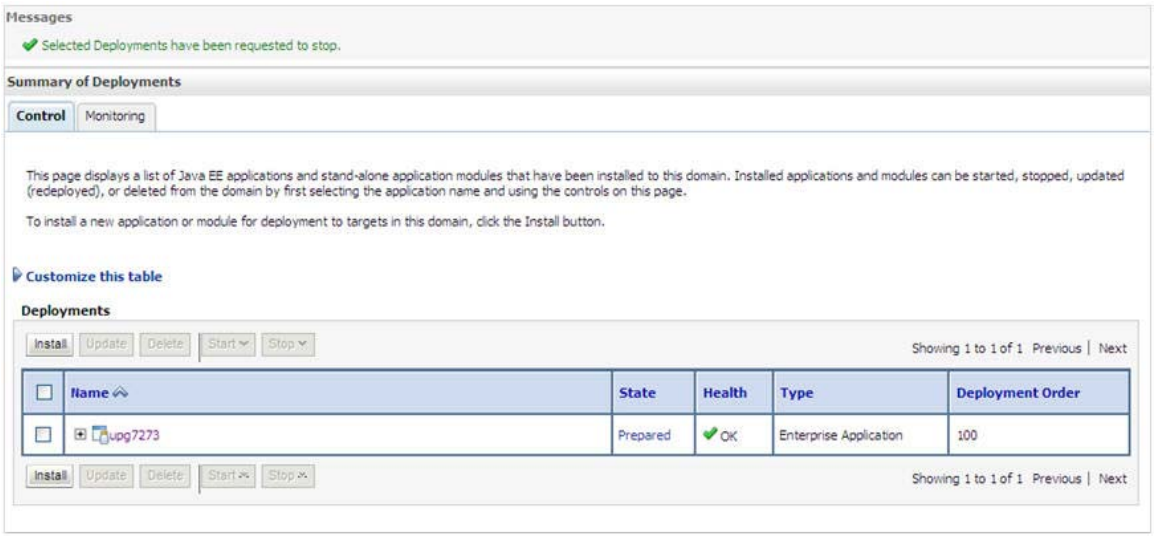
1. Open the URL in the browser window: `http://<ipaddress>:<admin server port>/console` (https if SSL is enabled). The *Login* window of the WebLogic Server Administration Console is displayed.
2. Login with the WebLogic user credentials having administrator privileges.
3. From the **Domain Structure** LHS menu, click **Deployments**. The *Summary of Deployments* screen is displayed.

Figure 8–4 *Summary of Deployments*


Summary of Deployments
Control
Monitoring
This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.
To install a new application or module for deployment to targets in this domain, click the Install button.
Customize this table
Deployments
Install
Update
Delete
Start
Stop
When work completes
Force Stop Now
Stop, but continue servicing administration requests
Showing 1 to 1 of 1 Previous | Next
Name
State
Health
Type
Deployment Order
upg7273
Active
OK
Enterprise Application
100

4. Select the checkbox adjacent to the application to be uninstalled and click **Stop> Force Stop Now**.
5. Click **Yes** in the confirmation dialog to stop the selected deployment.

Figure 8–5 *Summary of Deployments- Messages*


Messages
Selected Deployments have been requested to stop.
Summary of Deployments
Control
Monitoring
This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.
To install a new application or module for deployment to targets in this domain, click the Install button.
Customize this table
Deployments
Install
Update
Delete
Start
Stop
Showing 1 to 1 of 1 Previous | Next
Name
State
Health
Type
Deployment Order
upg7273
Prepared
OK
Enterprise Application
100

6. Select the checkbox adjacent to the application and click **Delete** to delete the selected deployment.
7. Click **Yes** in the confirmation dialog to remove the selected deployment from the domain configuration.

8.4 Uninstalling WAR Files in Tomcat

On the machine that hosts Tomcat, perform the following steps to uninstall any previously deployed application:

1. Comment out Context path section from `server.xml` file in `$CATALINA_HOME/conf` directory to avoid conflict during undeploy and re-deploy of the WAR file.

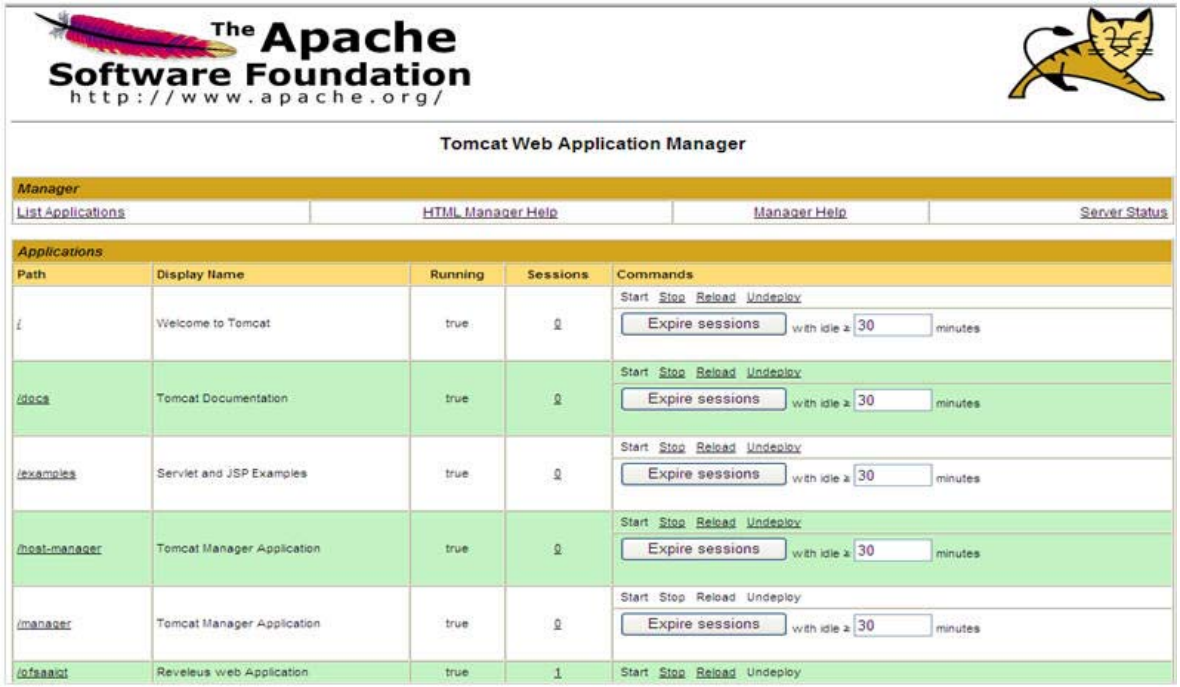
   Place comment `<!-- -->` in between the context path section. For example:

   ```
   <!--
   <Context path ="/pr2test"
   docBase="/home/perfuser/tomcat-7.0.19/webapps/pr2test" debug="0"
   reloadable="true" crossContext="true">
   <Resource auth="Container"
   name="jdbc/PR2ATM"
   type="javax.sql.DataSource"
   driverClassName="oracle.jdbc.driver.OracleDriver"
   username="pr2atm"
   password="pr2atm"
   url="jdbc:oracle:thin:@10.184.74.99:1521:PERFTEST"
   maxActive="100"
   maxIdle="30"
   maxWait="10000"/>
   </Context>
   -->
   ```

   Restart the Tomcat service by doing the following:

   b. Login to the "Unix server" through a terminal emulator.
   c. Navigate to `$catalina_home/bin` directory.
   d. Stop the tomcat services using the command `./shutdown.sh`
   e. Start the tomcat services using the command `./startup.sh`
2. Open the URL in a browser window: `http://<IP address>:<Tomcat server port>`. (https if SSL is enabled). The *Tomcat home* window is displayed.
3. Click the **Manager App.** The *Connect to* window is displayed.
4. Login with the user credentials having admin rights. The *Tomcat Web Application Manager* window is displayed with the list of all applications deployed in Tomcat.

Figure 8–6 *Tomcat Web Application Manager*



5. Click the **Undeploy** link against the deployed Infrastructure application. A confirmation message is displayed on the application /Infrastructure being uninstalled.

A

Appendix - OFSAAI_InstallConfig.xml

A.1 OFSAAI_InstallConfig.xml and OFSAAI_PostInstallConfig.xml Parameters

Prior to installing the OFSAA Infrastructure v7.3.3.0.0 in SILENT mode, it is mandatory to update the `OFSAAI_InstallConfig.xml` and `OFSAAI_PostInstallConfig.xml` files.

This section details the various parameters available in the `OFSAAI_InstallConfig.xml` and `OFSAAI_PostInstallConfig.xml` files and the values that need to be updated.

A.1.1 OFSAAI_InstallConfig.xml

The `OFSAAI_InstallConfig.xml` file is one of the core files of the installation process and it is *mandatory* to update this file prior to the installation.

The `OFSAAI_InstallConfig.xml` is organized into multiple sections called layers with each <Layer> divided into InteractionGroups. Each <InteractionGroup> contains one or more <InteractionVariable> parameters.

> **Note:** It is mandatory to retain all the layers and their internal elements/ sub-elements. Under no circumstances should any of these be removed or tampered.

The different layers and its significance are mentioned in Table :

Table A–1 OFSAA Infrastructure Installation Tasks and Descriptions

Layer Name	Significance
GENERAL	This layer contains Interaction Groups that capture general installation details such as the installation directory, the system IP/ hostname, the database details and so on.
OFSAAI_APP_LAYER	This layer contains the Interaction Groups that capture information on post installation configuration and sample app installation.
OFSAAI_DB_LAYER	This layer contains the Interaction Group that captures information on the ports that need to be enabled for the various internal OFSAA Infrastructure services that run on the system

Table A–1 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

Layer Name	Significance
OFSAAI_WEB_LAYER	This layer contains the Interaction Groups that capture the Web Server and Web Application Server details.

You need to manually set the **InteractionVariable** parameter values as mentioned in Table . If a value is not applicable, enter **NA** and ensure that the value is not entered as NULL.

Table A–2 OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
USER_INSTALL_DIR_PATH	Identifies the Installation Directory for the OFSAA Infrastructure where all the OFSAA Infrastructure components would be installed. For example, `<InteractionVariable name="USER_INSTALL_DIR_ PATH">/oradata6/revwb7/ofsaa</InteractionV ariable>`	Yes
WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA Infrastructure web components would be deployed. The below numeric value should be set depending on the type: • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 For example, `<InteractionVariable name="WEBAPPSERVERTYPE">3</InteractionVari able>`	Yes
OFSAAI_APP_LAYER_IP	Identifies the Hostname or IP Address of the system on which the OFSAA Infrastructure components such as the metadata server would be installed. For example, `<InteractionVariable name="OFSAAI_APP_LAYER_ IP">10.11.12.13</InteractionVariable>` or `<InteractionVariable name="OFSAAI_APP_ LAYER_ IP">my.server.com</InteractionVariable>`	Yes
OFSAAI_DB_LAYER_IP	Identifies the hostname or IP address of the system on which the OFSAA Infrastructure components such as the backend computation engines would be installed. For example, `<InteractionVariable name="OFSAAI_DB_LAYER_ IP">10.11.12.13</InteractionVariable>` or `<InteractionVariable name="OFSAAI_DB_ LAYER_ IP">my.server.com</InteractionVariable>`	Yes

Table A–2 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
Note: The parameter value specified for `OFSAAI_APP_LAYER_IP` and `OFSAAI_DB_LAYER_IP` should be the same.		
`DBSERVER_IP`	Identifies the hostname or IP address of the system on which the Database Engine is hosted. **Note**: For RAC Database, the value should be NA. For example, `<InteractionVariable name="DBSERVER_IP">14.15.16.17</InteractionVariable>` or `<InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable>`	Yes

`JDBC_URL`	Identifies the JDBC URL that will be used for the query executions.
	This release of the OFSAA Infrastructure supports both RAC and NON-RAC enabled database connectivity
	Syntax: `<InteractionVariable name="JDBC_URL">jdbc:oracle:thin:@[HOST][:PORT]:SID</InteractionVariable>`
	or
	`<InteractionVariable name="JDBC_URL">jdbc:oracle:thin:@//[HOST][:PORT]/SERVICE</InteractionVariable>`
	or
	`<InteractionVariable name="JDBC_URL">jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(port=[PORT]))(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(PORT=[PORT]))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=[SERVICE])))</InteractionVariable>`
	For example, `<InteractionVariable name="JDBC_URL">jdbc:oracle:thin:@//dbhost.server.com:1521/service1 </InteractionVariable>`
	or
	`<InteractionVariable name="JDBC_URL">jdbc:oracle:thin:@//dbshost.server.com:1521/scan-1</InteractionVariable>`
	or
	`<InteractionVariable name="JDBC_URL">jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost1.server.com)(port=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost2.server.com)(PORT=1521))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=service1)))</InteractionVariable>`
		Yes

Table A–2 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
ORACLE_SID/SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME **Note**: The Oracle_SID value should be exactly the same as it is mentioned in JDBC_URL. For example, <InteractionVariable name="ORACLE_SID/SERVICE_NAME">ofsaser</InteractionVariable>	Yes
CONFIGDBUSER_ID	Identifies the Oracle database user that would hold the OFSAA Infrastructure CONFIG schema. For example, <InteractionVariable name="CONFIGDBUSER_ID">ofsaconf</InteractionVariable>	Yes
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (ojdbc6.jar) exists. This would typically be the $ORACLE_HOME/jdbc/lib For example, <InteractionVariable name="ABS_DRIVER_PATH">>/oradata6/revwb7/oracle</InteractionVariable>	Yes
OLAP_SERVER_IMPLEMENTATION	Identifies if the OFSAA Infrastructure OLAP component needs to be configured depending on whether you intend to use the OLAP feature. The below numeric value should be set depending on the choice: • YES - 1 • NO - 0	No
Note: If value for OLAP_SERVER_IMPLEMENTATION is set to **1**, it checks for following environment variables are set in.profile: ARBORPATH, HYPERION_HOME and ESSBASEPATH.		
SFTP_ENABLE	Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The below numeric value should be set depending on the choice: • SFTP - 1 • FTP - 0	Yes
Note: The default value set is 1 as this release of the OFSAA Infrastructure mandates the SFTP service be up and running on the system where OFSAA Infrastructure would be installed. For example, <InteractionVariable name="SFTP_ENABLE">0</InteractionVariable>		
FILE_TRANSFER_PORT	Identifies the port used for the file transfer service. The default value specified is **22** (SFTP). Specify value as **21** or any other PORT value if value for SFTP_ENABLE is **0**. For example, <InteractionVariable name="FILE_TRANSFER_PORT">21</InteractionVariable>	Yes
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English. For example, <InteractionVariable name="LOCALE">en_US</InteractionVariable>	Yes

Table A–2 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="OFSAAI_APP_LAYER">		
POST_INSTALL	Identifies if the Post Install Configuration required for the OFSAA Infrastructure installation needs to be completed by the installer. The default value specified is **0**. The below numeric value should be set depending on the choice: ? YES - 1 ? NO - 0 For example, <InteractionVariable name="POST_INSTALL">1</InteractionVariable>	Yes
Note: **1.** If you have specified the value as **1**, refer OFSAAI_PostInstallConfig.xml for information on configuring the parameters. **2.** If you have specified the value as **0**, see Chapter 5, "Post Installation Configuration" .		
INSTALL_SAMPLEAPP	Identifies if the Sample Application packaged with this release of the OFSAA Infrastructure should be installed. The default value specified is **0**. The below numeric value should be set depending on the choice: ? YES - 1 ? NO - 0 For example, <InteractionVariable name="INSTALL_SAMPLEAPP">0</InteractionVariable>	Yes
Note: If you intend to install the SAMPLEAPP, refer Database User/ Schema section for prerequisites on installing the SAMPLEAPP. **3.** This parameter value cannot be **1** if the value for POST_INSTALL is set to **0.**		
<Layer name="OFSAAI_DB_LAYER">		
Note: The below ports are used internally by the various OFSAA Infrastructure services. The default values mentioned below are set in the installation. If you intend to specify a different value, update the parameter value accordingly and ensure this port value is in the range of 1025 to 65535 and the respective port is enabled.		
JAVAPORT	9999	Yes
NATIVEPORT	6666	Yes
AGENTPORT	6510	Yes
ICCPORT	6507	Yes
ICCNATIVEPORT	6509	Yes
OLAPPORT	10101	Yes
MSGPORT	6501	Yes
ROUTERPORT	6500	Yes
AMPORT	6505	Yes
<Layer name="OFSAAI_WEB_LAYER">		

Table A–2 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
HTTPS_ENABLE	Identifies if the UI should be accessed using HTTP or HTTPS scheme. The default value set is **0**. The below numeric value should be set depending on the choice: ? YES - 1 ? NO - 0 For example, <InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable>	Yes
Note: If value for HTTPS_ENABLE is set to **1**, ensure you have a valid certificate available from a trusted CA and the same is configured on your web application server. For more details on configuring your setup for HTTPS, see Section B.2.17, "Configure HTTPs Certificate information."		
WEB_SERVER_IP	Identifies the HTTP Server IP/ Hostname or Web Application Server IP/ Hostname, to be used for accessing the UI. This IP would typically be the HTTP Server IP. If no separate HTTP Server is available, the value should be Web Application Server IP/Hostname. For example, <InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable> or <InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable>	No
WEB_SERVER_PORT	Identifies the Web Server Port. This would typically be **80** for non SSL and **443** for SSL. If no separate HTTP Server exists, the value should be the port configured for Web Server. **Note**: The port value will not be accepted as 80 if HTTPS_ENABLE is 1 and as 443, if HTTPS_ENABLE is 0. For example, <InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>	No
CONTEXT_NAME	Identifies the web application context name which will be used to built the URL to access the OFSAA applications. The context name can be identified from a URL as below: <scheme>://<host>:<port>/<context-name>/login.jsp Sample URL: https://myweb:443/ofsaadev/login.jsp For example, <InteractionVariable name="CONTEXT_NAME">ofsaadev</InteractionVariable>	Yes

Table A–2 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded .ear file on the web application server. For Tomcat, specify the Tomcat directory path till /webapps, such as /oradata6/revwb7/tomcat/webapps/. For WebSphere, enter the WebSphere path as <WebSphere profile directory>/installedApps/<NodeCellName>. For example, /data2/test//WebSphere/AppServer/profiles/<Profile_ Name>/installedApps/aix-imfNode01Cell. Where aix-imf is Host name. For WebLogic, provide the WebLogic home directory path as /<WebLogic home directory path>/bea/wlserver_10.3	Yes
WEB_LOCAL_PATH	Identifies the absolute path to any directory on the web application server that can hold temporary files being uploaded as part of the applications usage. **Note**: In case of a clustered deployment, ensure this path and directory is same on all the nodes.	Yes
WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain Home. Specify the value only if WEBSERVERTYPE is set as **3** (WebLogic). For example, <InteractionVariable name="WEBLOGIC_DOMAIN_ HOME">/home/weblogic/bea/user_ projects/domains/mydomain </InteractionVariable>	No

A.1.2 OFSAAI_PostInstallConfig.xml

The OFSAAI_PostInstallConfig.xml file is one of the core files of the installation process and it is *optional* to update this file prior to the installation. However, it is *mandatory* to update this file if the value for parameter POST_INSTALL in the OFSAAI_ InstallConfig.xml file is set to **1**.

The OFSAAI_ PostInstallConfig.xml is similar to the OFSAAI_InstallConfig.xml and organized into multiple sections called layers with each <Layer> divided into InteractionGroups. Each <InteractionGroup> contains one or more <InteractionVariable> parameters.

> **Note:** It is mandatory to retain all the layers and their internal elements/ sub-elements. Under no circumstances should any of these be removed or tampered.

The different layers and their significance are mentioned in Table :

Table A–3 Layers and their Significance

Layer Name	Significance
OFSAAI_APP_LAYER	This layer contains the Interaction Group that captures information on the shared file system details like the ftp user and ftp folder path.
OFSAAI_DB_LAYER	This layer contains the Interaction Group that captures information on the shared file system details like the ftp user and ftp folder path.

You need to manually set the **InteractionVariable** parameter values as mentioned in Table . If a value is not applicable, enter **NA** and ensure that the value is not entered as NULL.

Table A–4 InteractionVariables and Expected Values

InteractionVariable Name	Significance and Expected Value	Mandatory
	<<Layer name="OFSAAI_APP_LAYER">	
APP_FTPSHARE_PATH	Identifies the absolute path to the directory identified as file system stage area. **Notes**: **1.** The directory should exist on the same system on which the OFSAA Infrastructure is being installed (can be on a separate mount). **2.** The user mentioned in APP_SFTP_USER_ID parameter below should have RWX permission on the directory. For example, <InteractionVariable name="APP_FTPSHARE_PATH">">/oradata6/revwb7/ftpshare</InteractionVariable>	Yes
APP_SFTP_USER_ID	Identifies the user who has RWX permissions on the directory identified under parameter APP_FTPSHARE_PATH above.	Yes
	<Layer name="OFSAAI_DB_LAYER">	
DB_FTPSHARE_PATH	Identifies the absolute path to the directory identified as file system stage area. **Note**: This value should be same as mentioned in parameter APP_FTPSHARE_PATH above.	Yes
DB_SFTP_USER_ID	Identifies the user who has RWX permissions on the directory identified under parameter DB_FTPSHARE_PATH above. **Note**: This value should be the same as mentioned in parameter APP_SFTP_USER_ID above.	Yes

B

Appendix - Webserver Configuration for Infrastructure Application

This appendix includes the following sections:

- Webserver Configuration for Infrastructure Application
- Additional Configurations

B.1 Webserver Configuration for Infrastructure Application

You can configure the web server in the following ways as required. Click on the links to view the section in detail:

- Configurating WebSphere for Infrastructure Application Deployment
- Configurating WebLogic for Infrastructure Application Deployment

B.1.1 Configurating WebSphere for Infrastructure Application Deployment

Applicable only if the web container is WebSphere.

You can deploy multiple Infrastructure applications on different profiles of a stand-alone WebSphere application server. To create multiple WebSphere "Profiles" in a stand-alone server, use the command line option as explained below. A profile is the set of files that define the runtime environment. At least one profile must exist to run WebSphere Application Server.

B.1.1.1 Creation of New Profile in WebSphere

The Profile is created in WebSphere through command line using the **manageprofiles.sh** which resides in <*WebSphere Install directory*>*/AppServer/bin*.

The command to create a profile **without admin** security through command line is as follows:

```
"manageprofiles.sh -create -profileName <profile> -profilePath <profile_
path> -templatePath <template_path> -nodeName <node_name> -cellName <cell_
name> -hostName <host_name>"
```

Example:

```
$usr/home>./manageprofiles.sh -create -profileName mockaix
-profilePath/websphere/webs64/Appserver/profiles/mockaix
-templatePath/websphere/webs64/Appserver/profileTemplates/default
-nodeName ipa020dorNode04 - cellName ipa020dorNode04Cell -hostName
ipa020dor
```

The command to create a profile **with admin** security through command line is as follows:

```
"manageprofiles.sh -create -profileName <profile> -profilePath <profile_
path> -templatePath <template_path> -nodeName <node_name> -cellName <cell_
name> -hostName <host_name> -enableAdminSecurity true -adminUserName
<Admin User Name> -adminPassword < Admin User Password> -samplespassword
<sample User Password>"
```

Example:

```
$usr/home>./manageprofiles.sh -create -profileName mockaix
-profilePath/websphere/webs64/Appserver/profiles/mockaix
-templatePath/websphere/webs64/Appserver/profileTemplates/default
-nodeName ipa020dorNode04 -cellName ipa020dorNode04Cell -hostName
ipa020dor -enableAdminSecurity true -adminUserName ofsaai -adminPassword
ofsaai -samplespassword ofsaai"
```

Note: While using the `manageprofiles.sh` command to create a New Profile in WebSphere, you can also use "-validatePorts" to validate if the specified ports are not reserved or in use. Additionally, you can specify new ports with "`-startingPort <base port>`" which specifies the starting port number to generate and assign all ports for the profile. For more information on using these ports, refer WebSphere manageprofiles command.

B.1.1.2 Manage Applications in WebSphere

To manage the installed applications in WebSphere, do the following:

1. Open the administrator console using the following URL:

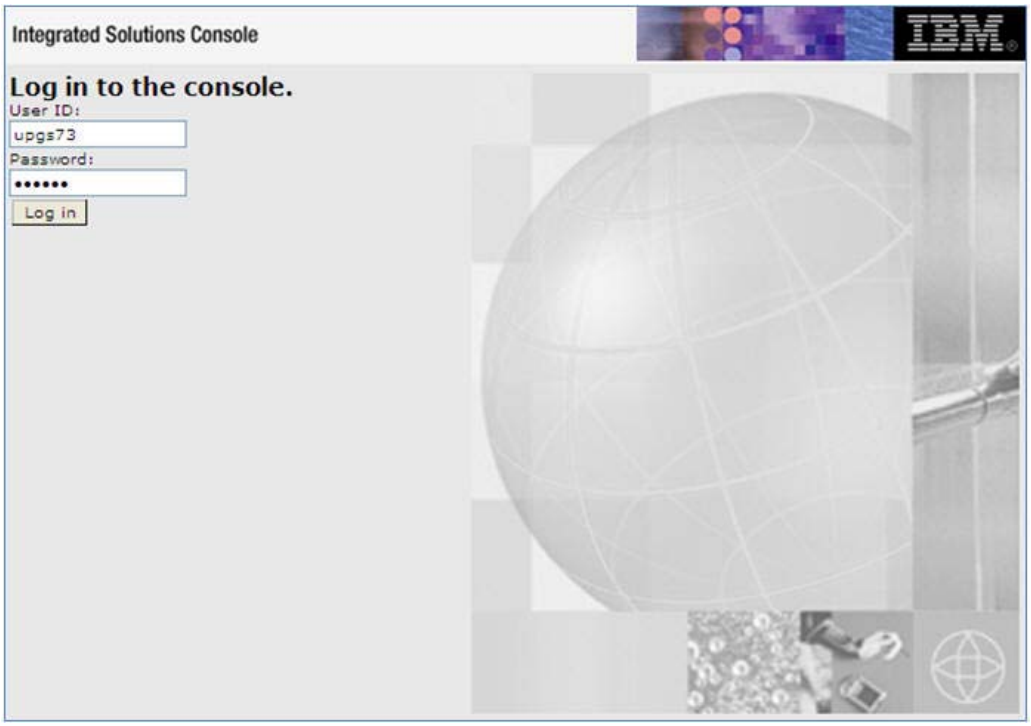
   `http://<ipaddress>:<Administrative Console Port>/ibm/console`

   Example: `http://10.111.222.333:9003/ibm/console` (https if SSL is enabled)

   Note: Administrative Console Port value is available in `serverindex.xml` file within `<WebSphere Profile Directory>/config/cells/<Node Cell>/nodes/<Node Name>` directory.

   The *Integrated Solutions Console Login* window is displayed.

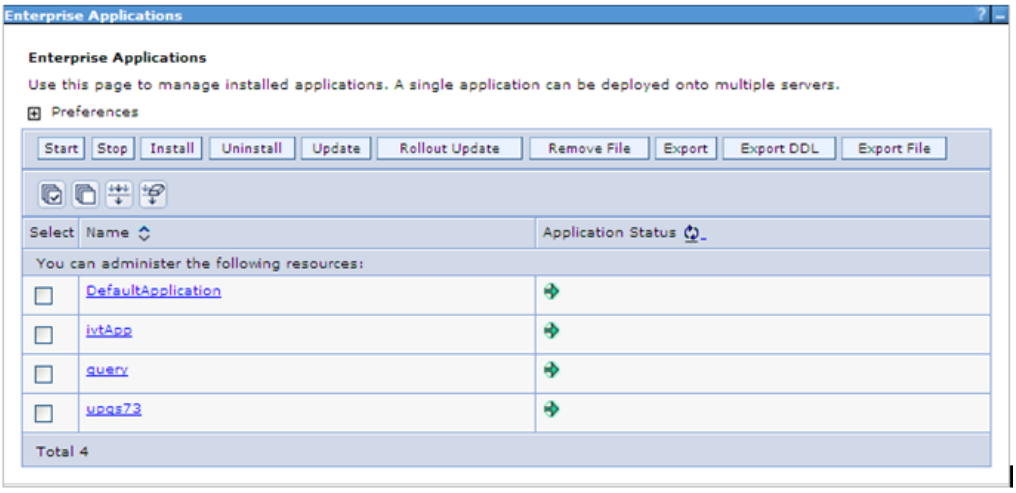
Figure 8–7 Integrated Solutions Console Login



2. Log on with the **User ID** provided with the admin rights.
3. From the LHS menu, expand the **Applications** > **Application Type**> **WebSphere Enterprise Applications**.

   The *Enterprise Applications* screen is displayed.

Figure 8–8 Enterprise Applications



This Enterprise Applications screen helps you to:

- Install new application
- Uninstall existing applications

- Start or Stop the installed applications

B.1.1.3 Delete WebSphere Profiles

To delete a WebSphere profile, do the following:

1. Select the checkbox adjacent to the required application and click **Stop**.
2. **Stop** the WebSphere profile to be deleted.
3. Navigate to WebSphere directory:

   `<WebSphere_Installation_Directory>/AppServer/bin/`
4. Execute the command:

   `manageprofiles.sh -delete -profileName <profile_name>`
5. Delete profile folder.

   Example: `<WebSphere_Installation_Directory>/AppServer/profiles/<profile_name>`
6. Execute the command:

   `manageprofiles.sh -validateAndUpdateRegistry`

B.1.2 Configurating WebLogic for Infrastructure Application Deployment

Applicable only if the web container is WebLogic.

You can deploy multiple Infrastructure applications on different domains of a stand-alone weblogic application server. To create multiple WebLogic "Domains" in a stand-alone server you can use the Domain Creation wizard. A domain is the set of files that define the runtime environment. At least one domain must exist to run WebLogic Application Server.

B.1.2.1 Creating Domain in WebLogic Server

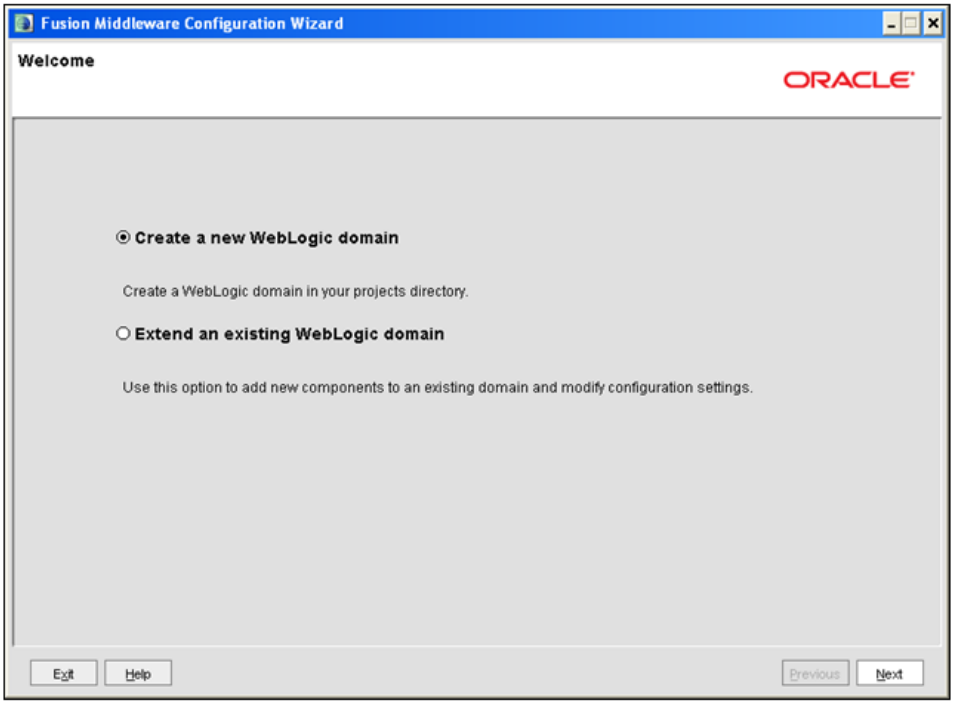
To create a new domain using Configuration Wizard in WebLogic, do the following:

1. Navigate to the directory `<weblogic_Home Directory>/wlserver_10.3/common/bin` and execute the command:

   `.\config.sh`

   The *Welcome* window of the *Configuration Wizard* is displayed.

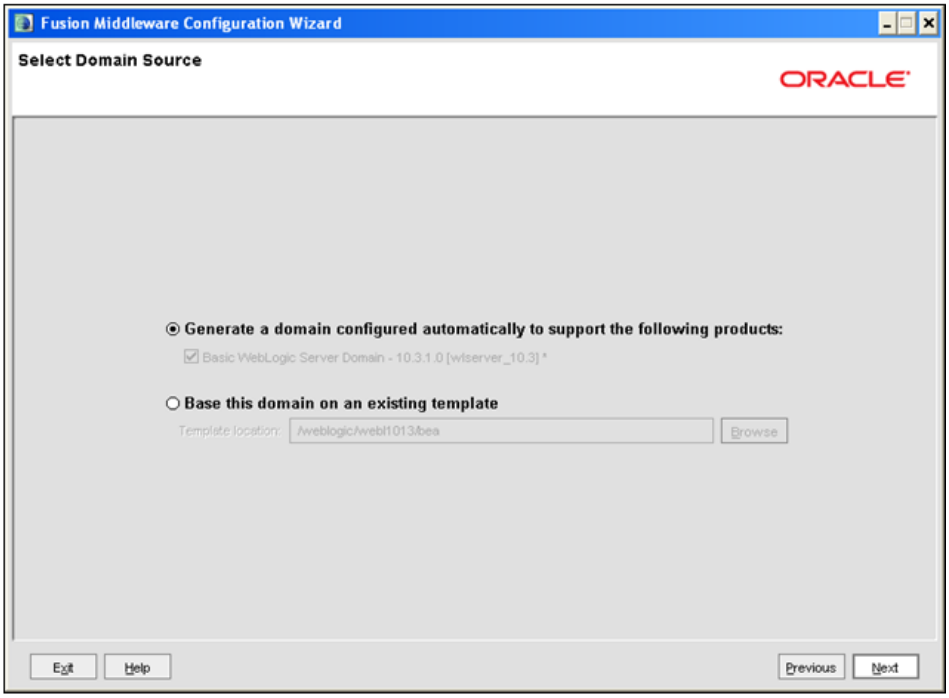
Figure 8–9 Welcome



2. Select **Create a new WebLogic domain** option and click **Next**.

   The *Select Domain Source* window is displayed.

Figure 8–10 Select Domain Source



3. Select the **Generate a domain configured automatically to support the following products** option and click **Next**.

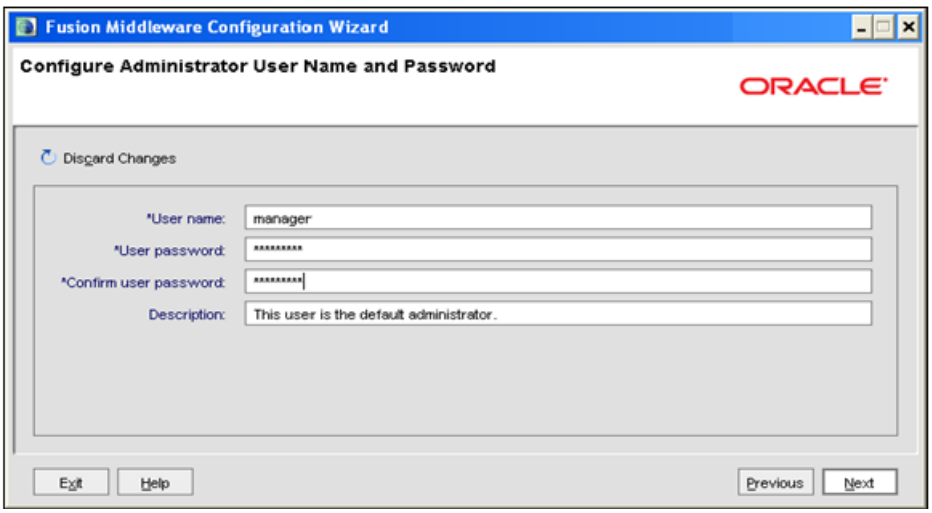
   The *Specify Domain Name and Location* window is displayed.

Figure 8–11 Specify Domain Name and Location

4. Enter the **Domain Name** and **Location**. Click **Browse** to navigate and specify the location. Click **Next**.

   The *Configure Administrator Username and Password* window is displayed.

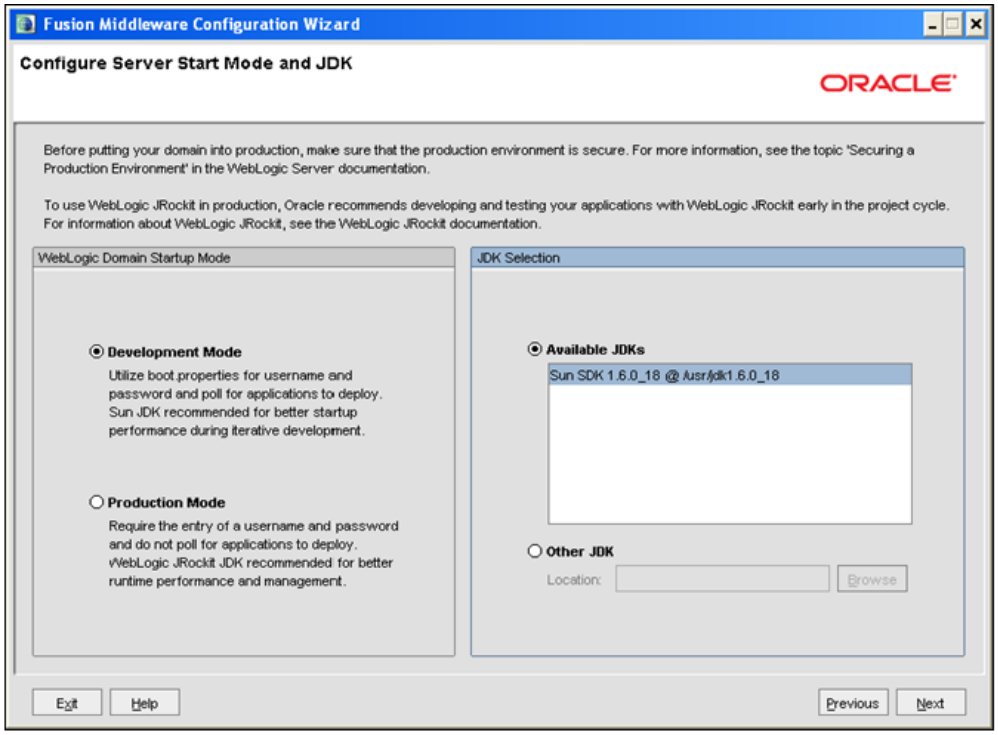
Figure 8–12 Configure Administrator Username and Password



5. Enter the **User name** and **User password** to be assigned to the Administrator. Ensure that the password is of minimum 8 characters in length.
6. Re-enter the password for confirmation and add a brief **Description**. Click **Next**.

   The *Configure Server Start Mode and JDK* window is displayed.

Figure 8–13 Configure Server Start Mode and JDK


Fusion Middleware Configuration Wizard
Configure Server Start Mode and JDK
ORACLE
Before putting your domain into production, make sure that the production environment is secure. For more information, see the topic 'Securing a Production Environment' in the WebLogic Server documentation.
To use WebLogic JRockit in production, Oracle recommends developing and testing your applications with WebLogic JRockit early in the project cycle. For information about WebLogic JRockit, see the WebLogic JRockit documentation.
WebLogic Domain Startup Mode
Development Mode
Utilize boot properties for username and password and poll for applications to deploy. Sun JDK recommended for better startup performance during iterative development.
Production Mode
Require the entry of a username and password and do not poll for applications to deploy. WebLogic JRockit JDK recommended for better runtime performance and management.
JDK Selection
Available JDKs
Sun SDK 1.6.0_18 @ /usr/jdk1.6.0_18
Other JDK
Location:
Browse
Exit
Help
Previous
Next

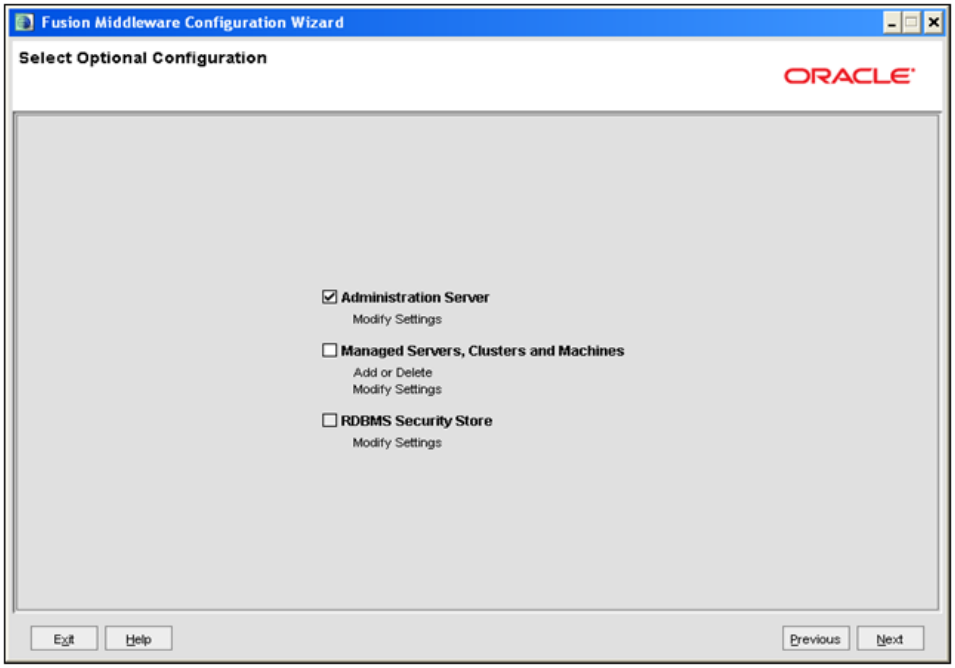
7. Select the following options:

   In the *WebLogic Domain Startup Mode* section, select the required mode (Development Mode or Production Mode).

   In the *JDK Selection* section, select **Other JDK**. Click **Browse** and navigate to the JDK location. Click **Next**.

   The *Select Optional Configuration* window is displayed.

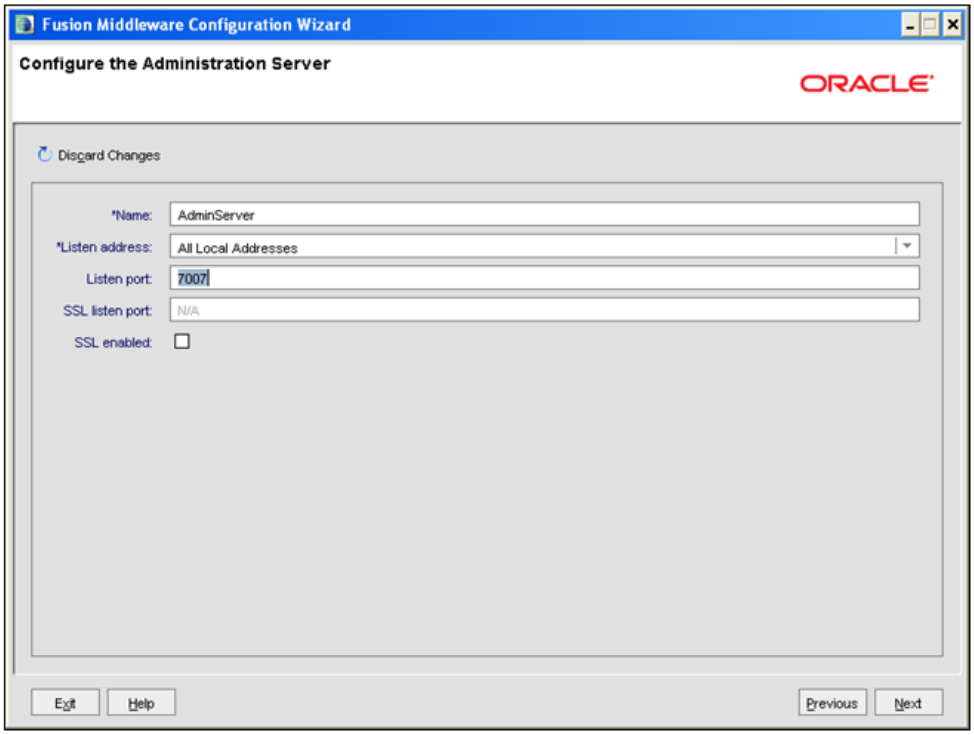
Figure 8–14 Select Optional Configuration



8. Select **Administration Server**. A WebLogic Server domain must have an Administration Server. You can also select Manages Servers, Clusters and Machines and RDBMS Security Store if required. Click **Next**.

   The *Configure the Administration Server* window is displayed.

Figure 8–15 Configure the Administration Server

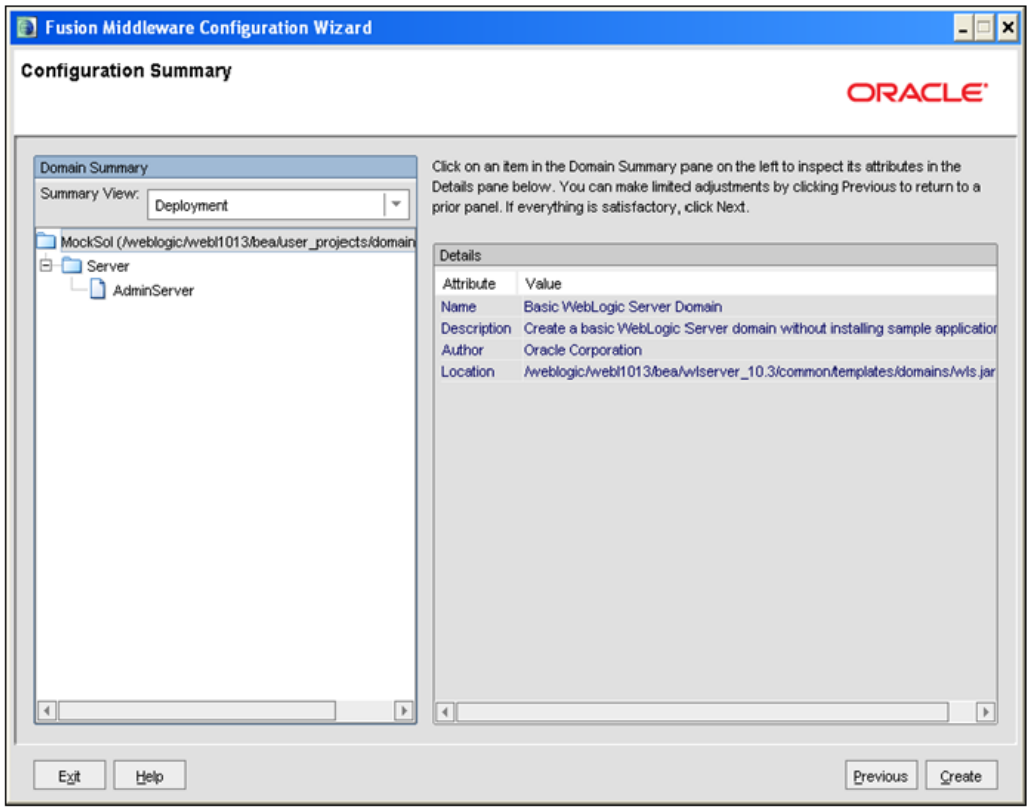


9. Enter Administration Server details such as the Name, Listen address, Listen Port, SSL listen port, and SSL enabled (for secure login using https) check box. Click **Next**.

   The *Configuration Summary* window is displayed.

   Note: Make a note of the Listen Port or SSL Listen Port value (ex: 7007), since the same has to be re-entered in the Servlet port field during Infrastructure installation.

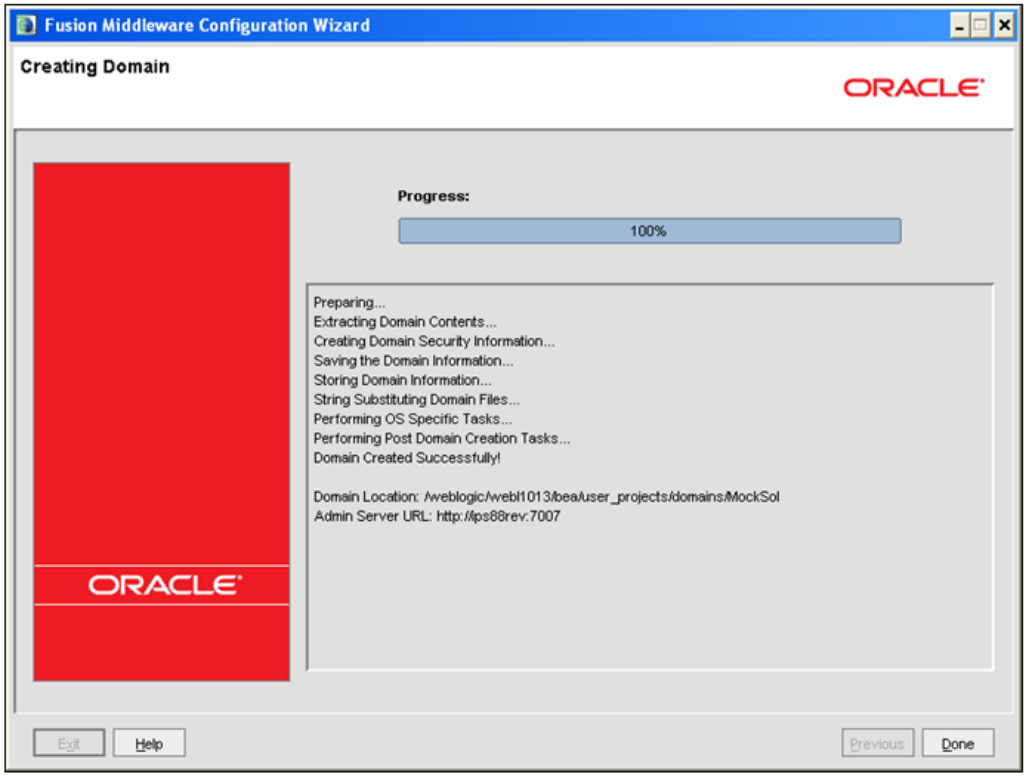
Figure 8–16 Configure Server Start Mode and JDK



10. Verify the configuration details of the WebLogic domain and click **Create**.

    The *Creating Domain* window is displayed with the status indication of the domain creation process.

Figure 8–17 Configure Server Start Mode and JDK



11. Click **Done** when complete. The domain server is created enabling the deployment of multiple Infrastructure applications on a single WebLogic.

B.1.2.2 Delete Domain in WebLogic

1. Navigate to the following directory:

   `<WebLogic Installation directory>/user_projects/domains/<domain name>/bin`

2. Execute **stopWebLogic.sh** to stop the Weblogic domain.
3. Delete the Weblogic domain.

B.2 Additional Configurations

Refer to the following sections for detailed module specific post installation configurations.

B.2.1 Configuration for Forms Framework

If the webserver is Tomcat, copy the `jaxrpc.jar` from the `<OFSAAI Installation Directory >/axis-1_4/webapps/axis/WEB-INF/lib` and place it in under `<Tomcat Installation Directory>/lib`.

B.2.2 Configuration for Model Upload Utility

The Model Upload Utility uploads the Data Model through the command line parameter by executing a shell script file. It is used to upload Models that are huge in size. The ERwin file that contains the Data Model information must be placed at `<ftpshare>/<infodom>/erwin/erwinXML`. The `Upload.sh` file is a shell script which is required to run the utility, and it is present at `$FIC_HOME/ficapp/common/FICServer/bin location`.

B.2.2.1 Run the Model Upload Utility

1. Open `Upload.sh` and enter the following arguments in the file:
   - `<infodom>` – Refers to the DSN name.
   - `<entire file path>` - Refers to the Erwin File Path.
   - `<username>` - Refers to the username.
   - `<uploadmode N/R/AM/AP>` - Refers to the Upload Choice Code.
     - N - Refers to the New Model Upload.
     - R - Refers to the Complete Model Rebuild Upload.
     - AM - Refers to the Incremental Model Upload.
     - AP - Refers to the Sliced Model Upload.
   - `<runscriptsFlag>` - Refers to the running of SQL Script.
     - <true> - Updates the database/schema with the Model changes.
     - <false> - Does not update the database/schema with Model changes.
2. Execute the script using the command:

   ```
   ./upload.sh
   ```

   Note: Ensure that you are provided with the execute permission.

   Logs are updated in regular Model Upload log at `ftpshare/<infodom>/logs/<infodom>_LOG_<last data model version>_<MM.DD.YYYY>-<HH.MM.SS>.log`

   Note: During incremental model upload, when the uploadmode is set as AM, some of mappings done in Data Integrator may get invalidated. You are required to save these mappings again.

B.2.2.2 Model Upload Details

Some Java settings need to be configured while uploading the data model with various sizes of xml files. This can be done by:

- Picking from the server
- Model Upload Utility
- Browsing the file in the local computer.

These Java settings differ depending on the availability of RAM. You have to ensure that the Default and Temporary table-space assigned to Oracle user is allocated with

required space. The below table consists of the Java settings done on both client and server machines:

Table B–1 optimized memory settings required for "New" model upload

Model Upload Options	Size of Data Model XML File	X_ARGS_APP ENV Variable in OFSAAI APP Layer
Pick from Server	106 MB	"-Xms1024m -Xmx1024m
	36 MB	"-Xms2048m -Xmx2048m
	815 MB	"-Xms4096m -Xmx4096m
	1243 MB	"-Xms6144m -Xmx6144m
Model Upload Utility	106 MB	"-Xms1024m -Xmx1024m
	336 MB	"-Xms2048m -Xmx2048m
	815 MB	"-Xms4096m -Xmx4096m
	1243 MB	"-Xms6144m -Xmx6144m
Save New Erwin File In Server	106 MB	"-Xms1024m -Xmx1024m
	336 MB	"-Xms2048m -Xmx2048m
	815 MB	"-Xms4096m -Xmx4096m
	1243 MB	"-Xms6144m -Xmx6144m

B.2.2.3 Common Errors

Some of the common errors during data model upload are:

- ORA-02296: cannot enable (OFSAAATOMIC) - null values found Inside the Rollback Segment
- ORA-01439: column to be modified must be empty to change the datatype
- ORA-01758: table must be empty to add mandatory (NOT NULL) column inside the Rollback Segment
- ORA-01440: column to be modified must be empty to decrease precision

The above errors can be solved by truncating the table.

- ORA-01442: column to be modified to NOT NULL is already NOT NULL- This error can be solved by updating the column to NULLABLE.

Note: Incremental/Sliced model upload might give errors if there are NOT NULL columns that are being added to a table that already has rows or if the columns that are being dropped have values. Check the data model changes excel file for any such cases. In such a case, take a backup of the table and truncate the table. Insert records back into the table with a default value for the NOT NULL column.

B.2.3 FTP/ SFTP Configuration for File Transfer

In OFSAA, certain modules require transfer of files from the web application server to the OFSAA server over SSH.

Follow these steps to ensure the OFSAA server recognizes the web application server during file transfers.

1. Login to the web application server.
2. Type `sftp <user>@<OFSAA Server>`
3. Specify Yes when prompted for permission.

   Are you sure you want to continue connecting (yes/no)?
4. This will add an entry into the "known_hosts" file.
5. The following confirmation message is displayed

   Permanently added <OFSAA Server> (RSA) to the list of known hosts.

Note: Ensure `PasswordAuthentication` is set to Yes in file `/etc/ssh/sshd_config`

B.2.4 Configuration for Dimension and Hierarchy Management

These configuration changes are applicable when Dimension Management features provided in OFSAAI are used. You can open `AMHMConfig.properties` file present in the `$FIC_WEB_HOME/webroot/conf` directory to set the properties for the following:

- Member Deletion
- Attribute Default Date Format
- Members Reverse Population
- Hierarchy Reverse Population
- Maximum levels allowed in Hierarchies
- Node Limit for a Hierarchy Tree

Configuration for Dimension and Hierarchy Management has to be done only after the application/solution installation is done. The properties specific to Information Domain are:

- `$INFODOM$`=<Name of the Information Domain>
- `$DIMENSION_ID$`=<Dimension ID for which the property to be set>

B.2.4.1 Configure Member Deletion

This property should be set to allow the user to delete the Members for the Dimension.

Table B–2 Member Deletion Configuration

Value	Code	Example
# Member Deletion Configuration - VALUE-Y/N	MEMBER_DEL-$INFODOM$-$DIMENSION_ID$=$VALUE$	MEMBER_DEL-ORAFUSION-1=Y

B.2.4.2 Configure Attribute Default Date Format

This property should be set to display the Default Date Format for Date type Attribute in *Attributes* window.

Table B–3 Attribute Default Date Format

Value	Code	Example
# Attribute Default Date Format - DB_DATE_FORMAT:DD-MON-YYYY	ATTR_DEF_DATE_FORMAT-$INFODOM$=DB_DATE_FORMAT	ATTR_DEF_DATE_FORMAT-ORAFUSION=DD/MON/YYYY

B.2.4.3 Configure Members Reverse Population

This property should be set for reverse population of Members for the Dimensions in required Information Domains.

Table B–4 Members Reverse population

Value	Code	Example
# Members Reverse population - VALUE- Y/N	MEMBER_REVERSE_POP-$INFODOM$-$DIMENSION_ID$=$VALUE$	MEMBER_REVERSE_POP-ORAFUSION-1=Y

B.2.4.4 Configure Hierarchy Reverse Population

This property should be set for reverse population of Hierarchies for the Dimensions in required Information Domains.

Table B–5 Hierarchy Reverse population

Value	Code	Example
#Hierarchy Reverse population - VALUE- Y/N	HIERARCHY_REVERSE_POP-$INFODOM$-$DIMENSION_ID$=$VALUE$	HIERARCHY_REVERSE_POP-ORAFUSION-1=Y

B.2.4.5 Configure Maximum Levels allowed in Hierarchies

This property is required to set the maximum levels allowed to build the Hierarchies tree structure.

Table B–6 Hierarchy Maximum level allowed

Value	Code	Example
#Hierarchy Maximum level allowed for the hierarchy in particular Information Domain - VALUE - Integer number	MAX_DEPTH-$INFODOM$=$VALUE$	MAX_DEPTH-FUSION=15

The Maximum Levels allowed in the hierarchies is less than or equal to 15. If the Hierarchy Reverse population is set as "**Y**" and more than 15 levels are created. Then an alert is displayed as "*The number of levels exceeding the limit*".

If the maximum level allowed is set as more than 15 and hierarchy reverse population is set as "**Y**" then an error is displayed as "*Error occurred in Reverse populating the hierarchy*".

B.2.4.6 Configure Node Limit for a Hierarchy Tree

This property is required to display the Hierarchy as a small or a large hierarchy. If the tree node limit exceeds the set limit, the Hierarchies are treated as large Hierarchy.

Table B–7 Hierarchy Tree node limit

Value	Code	Example
#Tree node limit for the hierarchy - Values is Integer number	TREE_NODE_ LIMIT=$VALUE$	TREE_NODE_LIMIT=30

B.2.5 BlowFish Algorithm Setting for Solaris 5.11

OFSAA client call uses blowfish-cbc, 3des-cbc algorithm during SFTP. But BlowFish algorithm is not supported on Solaris 11 operating system. Perform the following steps manually to enable it:

1. Login as a root user.
2. Append the following line to `/etc/ssh/sshd_config`

   ```
   Ciphers
   aes128-ctr,aes192-ctr,aes256-ctr,arcfour128,arcfour256,arcfour,blowfish
   -cbc,3des-cbc
   ```

3. Restart ssh daemon:

   ```
   svcadm -v restart ssh
   ```

B.2.6 Configure Information Domain Schema Privileges

As the "Information Domain Schema" uses some of the tables from the "configuration schema", ensure to execute the below file from the Infrastructure "configuration database" user before Information Domain is created.

```
<Infrastructure Database Layer Install Directory>/config_table_privileges_
for_atomic_user.sql
```

B.2.7 Configure Infrastructure Server Memory

The memory settings for Infrastructure Application Server, Tomcat, WebSphere, and WebLogic can be edited for customizing memory settings and garbage collector settings depending on the available hardware configuration as explained below. These settings are base minimum and has to be incremented considering the deployment metrics into account. The increments are usually handled in multiples of 128mb for heap and 64mb for stack.

B.2.7.1 Infrastructure Application Server Memory Settings

You can configure the Infrastructure Application Memory settings as follows:

1. Locate .profile file.
2. Edit X_ARGS field in this file for customizing memory settings and garbage collector settings depends on the hardware configuration.

   This has a default value X_ARGS="-Xms200m"

   ```
   X_ARGS=" "$X_ARGS" $DELIM -Xmx2048m"
   ```

> **Note:** This parameter is modified in 7.3.2 IR and you need to modify X_ARGS_APP variable in the .profile file to customize Java Memory Settings for Model Upload based on the Data Model size.

B.2.7.2 Tomcat Memory Settings

To configure the Tomcat Memory Settings:

1. Locate the file catalina.sh which resides in the folder <CATALINA_HOME>/bin.
2. Edit this file for customizing the memory settings and garbage collector settings depending on the available hardware configuration.
3. Add the memory setting for Java Heap to -Xms512m -Xmx1024m.

Example:

```
if [ -z "$LOGGING_MANAGER" ]; then
   JAVA_OPTS="$JAVA_OPTS -Xms512m -Xmx1024m
-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager"
else
   JAVA_OPTS="$JAVA_OPTS -Xms512m -Xmx1024m $LOGGING_MANAGER"
fi
```

B.2.7.3 WebLogic Memory Settings

To configure the WebLogic Memory Settings:

1. Change the memory setting for Java Heap to -Xms512m -Xmx1024m in setDomainEnv.sh file, which resides in the folder <DOMAIN_HOME>/bin and in CommEnv.sh file which resides in the folder common/bin.
2. Edit this file for customizing memory settings and garbage collector settings depending on the available hardware configuration.

Example 1:

```
if [ "${JAVA_VENDOR}" = "Sun" ] ; then
   WLS_MEM_ARGS_64BIT="-Xms512m -Xmx1024m"
   export WLS_MEM_ARGS_64BIT
   WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"
   export WLS_MEM_ARGS_32BIT
else
   WLS_MEM_ARGS_64BIT="-Xms512m -Xmx1024m"
   export WLS_MEM_ARGS_64BIT
```

```
WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"

export WLS_MEM_ARGS_32BIT
```

Example 2:

```
JAVA_VM=

MEM_ARGS="-Xms256m -Xmx1024m"
```

B.2.7.4 WebSphere Memory Settings

To configure the WebSphere Memory Settings:

1. Navigate to `Websphere applications server > Application servers > server1 > Process definition > Java Virtual Machine`.
2. Change the memory setting for Java Heap:

   `Initial heap size =` 512

   `Maximum heap size` =1024

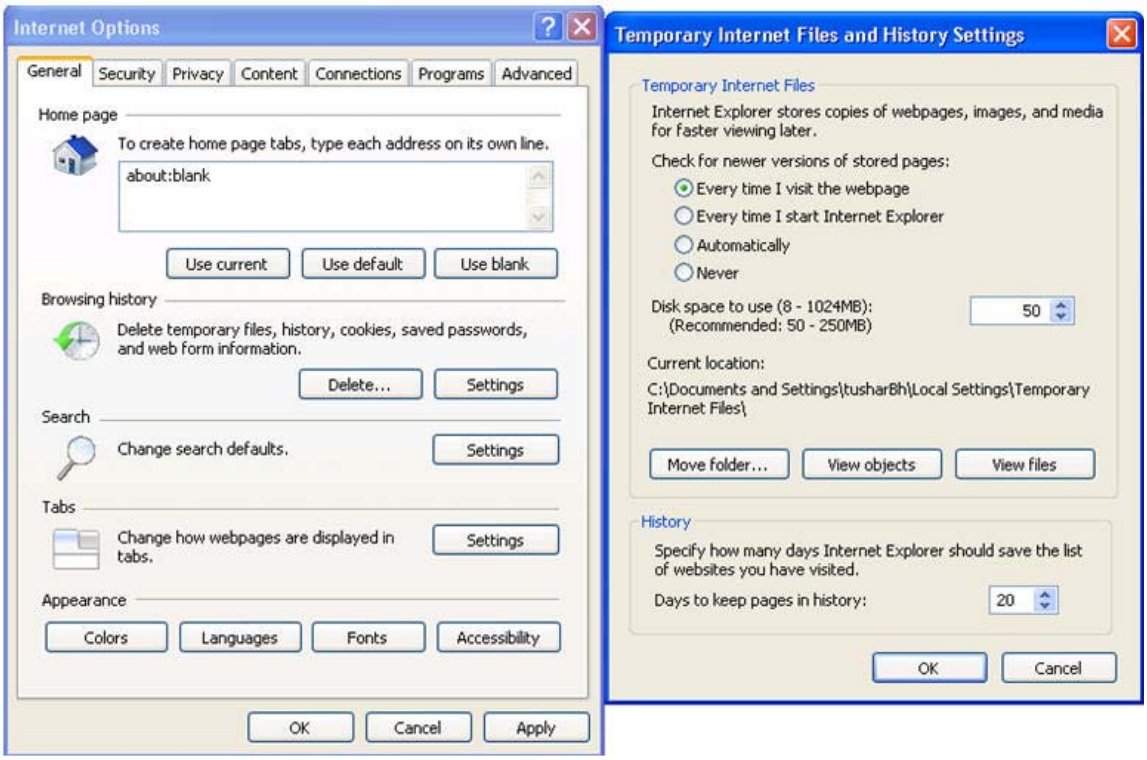
B.2.8 Internet Explorer Settings

> **Note:** OFSAAI supports only default zoom setting in Internet Explorer, that is, 100%.
> Cookies should be enabled.

The following browser settings have to be specified at every client machine prior to accessing the Infrastructure application.

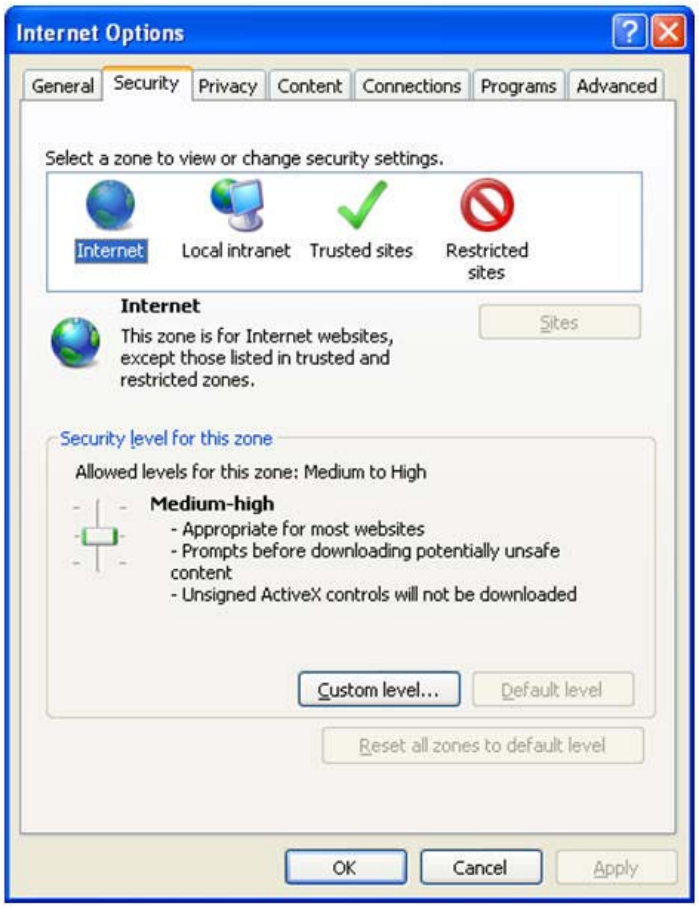
1. Open **Internet Explorer**. Select **Tools** > **Internet Options**. The *Internet Options* window is displayed.
2. Click the **Settings** button. The *Settings* window is displayed.
3. Select the option **Everytime I Visit the webpage** and click **OK**.

Figure 8–18 *OFSAAI Login window*



4. In the *Internet Options* window, select the **Security** tab and select the **Internet** option under **Select a zone to view or change the security settings**.

Figure 8–19 *Internet Options*



5. Click **Default Level** under **Security level for this zone**.

B.2.9 Retrieve Patch Details

For getting details on the patches that are installed in the OFSAAI environment, query the table INFODOM_PATCHES in the "configuration schema".

```
Select * from infodom_patches;
```

The INFODOM_PATCHES table in "configuration schema" gives the information of the patches which are already applied in OFSAAI environment.

Table B–8 INFODOM_PATCHES table

Table Name	Description
V_INFODOM	Name of INFODOM
N_SERIAL_NO	Serial Number of patch
V_PATCH_NAME	Version of the patch applied
V_REMARKS	Remarks
D_APPLIED_DATE	Patch application date

Table B–8 (Cont.) INFODOM_PATCHES table

Table Name	Description
V_APP_ID	Indicated whether it is Platform and Applications installed.

B.2.10 OLAP Data Server Configuration

This section is applicable if you are using the OLAP feature of OFSAAI.

The following parameters must be set to ensure that the system limitations are not exceeded at any stage. The values for these OS parameters should be specified based on the expected load at each implementation site.

Example:

Process Memory Limit

Max Thread Stack Size

Max Number of Threads per Process

- **Sort Buffer settings**: This must be set at the Essbase application level appropriate to the anticipated load.
- **Shutdown and Restart:** During shutdown of OFSAAI Server that has an instance of Data Services that is communicating with an OLAP Data Server, it is imperative to ensure that the cleanup of the old instance is completed on the OLAP Data Server before restarting the OFSAAI Server. Pause for a period of time based on the load the system was subjected to, before restarting the Data Services subsystem.

B.2.11 Object Migration - HTTPS URLConnection configuration for WebLogic

This section is applicable if you are using the Object Migration feature of OFSAAI with WebLogic as application server.

The Object Migration feature of Infrastructure allows you to transfer data from a source database along with the schema objects, triggers, and stored procedures, to the required database in an integrated visual environment.

While making a HTTP(s) connection to external resource from "WebLogic server", the following exception comes because of underlying API uses WebLogic implementation.

"*Caught Exception creating connection: java.lang.ClassCastException: weblogic.net.http.SOAPHttpsURLConnection*"

To avoid this problem, add a java option entry `-DUseSunHttpHandler=true` in "`setDomainEnv.sh`" file which resides in the WebLogic server.

Ensure that Sun Implementation is required to support Object Migration for HTTPS protocol using self signed certification.

B.2.12 Configure User Attributes Screen

The User Attributes feature of Infrastructure allows you to enter additional attributes for a user. The "CSSMS_ATTRIB_MAST" table in the configuration schema should be loaded with data based on the additional attributes that are required to be captured for a user. The field labels in the *User Attributes* screen of Infrastructure will be dependent on the values that are entered in this table.

An example of the data to be loaded in the "CSSMS_ATTRIB_MAST" table is given below:

Table B–9 CSSMS_ATTRIB_MAST table

ATTRIBUTE_ID	ATTRIBUTE_DESC	ALLOWED_VALUES	TYPE
PH	Phone Number		0
HT	Home Town	Bangalore, Mumbai, Delhi, Chennai	1
MGR	Manager	select case when v_usr_id ='[<USER>]' then 'null' else v_usr_id end,v_usr_name from cssms_usr_ profile	2

Here, ALLOWED_VALUES column holds the values that can be specified for the attribute and TYPE specifies how to get the allowed values.

The values that can be specified in the TYPE column are as follows:

- 0 - USER INPUT
- 1 - Comma Separated Values
- 2 - Execute the SQL select query in "ALLOWED_VALUES" column to get the list of allowed values. The query should select two columns, the first of which will be the actual values and the second, the description which will be displayed in the select list.

[<USER>] should be replaced with a valid Infrastructure user id.

B.2.13 Configure Infrastructure Ports

This step is applicable only in the event you wish to change any of the ports used by Infrastructure services after the installation process. The ports that are used by the Infrastructure application are distributed across the machines on which Infrastructure Web; Application, and Database components have been installed. Therefore you must perform the port changes on all the machines on which Infrastructure components have been installed.

"PortC.jar" can be executed in two modes.

- GUI
- CMD

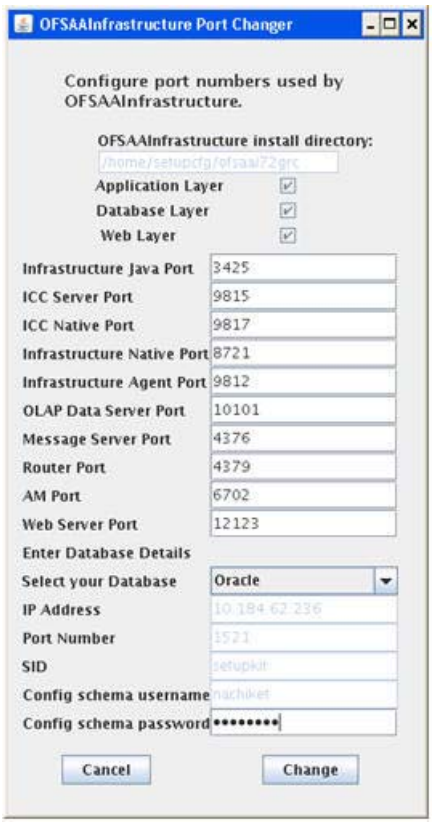
To execute "PortC.jar" in GUI mode, ensure that the "Hummingbird Exceed" to be running and do the following:

1. Navigate to the path `$FIC_HOME` in each machine.
2. Enter the command

   ```
   java -jar PortC.jar GUI
   ```

   The *OFSAA Infrastructure Port Changer* window is displayed.

Figure 8–20 OFSAA Infrastructure Port Changer



The OFSAA Infrastructure Port Changer window displays the following:

- The path in which Infrastructure components have been installed.
- The check-boxes corresponding to Application Layer, Database Layer, or Web Layer are enabled based on:
  - In the event you have performed a single-tier installation on the current machine, the check-boxes for all three components will be enabled.

If you have installed more than one category of components on the current machine, the corresponding checkboxes for the respective components you have installed will be enabled.

To edit the port value, enter the new port value. User has the option to change the required ports and leave the other ports unchanged. Only the ports for which values are modified will change and the ports that are unchanged will retain its default value.

Note: All ports on a machine must be unique. The range of port numbers that are given should preferably be between 1025 and 65535. The Servlet port can have 80 or 443 as port numbers if Default HTTP/HTTPS ports are being used.

- Select the **Database Type** as **Oracle** from the drop-down list.
- The **IP / Host Address** of the machine on which the corresponding database is installed will be populated.
- The **Port Number** on which the database is listening is displayed.

- The **SID** details are displayed.
- The **Configuration Schema username** is displayed.
- Enter the **Configuration schema password**.
- Click **Change** to initiate the port changes.

To execute `PortC.jar` in CMD mode:

1. Navigate to the path `$FIC_HOME`.
2. Enter the command:

```
java -jar PortC.jar CMD
```

Then enter the requested information to change the ports. Once the port numbers are changed in the Infrastructure configuration, a message will be displayed confirming the changes. The log "`Portchanger.log`" in the Infrastructure installation path provides the status of port changes performed.

For above port changes to take effect, a re-start of all Infrastructure servers is required.

Note: Do not execute the "PortC.jar" with CMD option in the "nohup" mode. The port changes are done only on Infrastructure web components where EAR/WAR files are deployed. After the port changes are done, you need to re-create the EAR/WAR files and re-deploy these files.

B.2.14 Modify Web Server Port

The Web Server Port is the same as the Servlet Port. In the event you wish to change the Servlet port after the installation process, you must follow the same process as above in the Port Changes section. This will change the Servlet port of the Infrastructure application.

Follow the steps explained in the Starting Infrastructure section to restart Infrastructure Servers. After restarting, check the connectivity from Servlet URL `http://<IPaddress>:<PortNumber>/<context-name>/servlet/com.iflex.fic.ficml.FICMaster>`.

The status should be successful for all the services.

B.2.15 OFSAAI Setup Information Fetching Tool

Executing the `SetupInfo.jar` file available in the `FIC_HOME` path will help you retrieve the related information about the OFSAAI Set up such as Operating System Name and version, Database Type and Version, OFSAAI architecture, Log file locations and so on.

To execute "`SetupInfo.jar`" in console:

1. Navigate to the path $FIC_HOME.
2. Enter the command:

```
java -jar SetupInfo.jar
```

After execution, the output file location is displayed in the console.

B.2.16 Encryption Changer

This utility helps you to regenerate the new `AESCryptKey.ext` file and encrypt all the encrypted values of the OFSAAI setup according to the new key.

To execute `EncryptC.jar` in console:

1. Navigate to the path $FIC_HOME.
2. Enter the command:

```
java -jar EncryptC.jar
```

A confirmation message is displayed after execution.

Once executed, you need to create and deploy the EAR / WAR file depending on the configured Web Application Server. For more information, see 5.2 , "Configuring Web Application Servers".

B.2.17 Configure HTTPs Certificate information

Update the following section from "`FICWeb.cfg`" file with the HTTPs certificate related details.

File path is:

```
<OFSAAI
DeploymentPath>/<ContextName.ear>/<ContextName.war>/conf/FICWeb.cfg
```

You need to change "OFSAAI DeploymentPath" in the staging area where you build the EAR file (`$FIC_WEB_HOME/webroot/conf/FICWeb.cfg`). When you deploy the EAR, this will have the change.

The following properties are to be uncommented for an HTTPS setup and the provider for WebSphere setup = "`com.ibm.jsse.IBMJSSEProvider`"

```
#MDD.PROTOCOL=$PROTOCOL

#MDD.TRUSTSTORE=$TRUSTSTORE

#MDD.TRUSTSTOREPASS=$TRUSTPASSWORD

#MDD.KEYSTORE=$KEYSTORE

#MDD.KEYSTOREPASS=$KEYPASSWORD

#PROVIDER=$PROVIDER

#DATE_FORMAT = MM/dd/yyyy
```

B.2.18 Infrastructure LDAP Configuration

This provides you with the option of using LDAP (Lightweight Directory Access Protocol) authentication or Infrastructure SMS authentication for logging on to Infrastructure.

If you are using the Infrastructure authentication, the user and user group details, profile creation, function and role maintenance and other mappings can be done through the Infrastructure Administration module under Security Management. The data in this case, will be updated in the CSSMS table.

However, if you wish to use LDAP for user authentication, then you have to ensure that the LDAP server is installed and configured. Also make sure that OPEN LDAP 2.2.29+ is installed and configured in Windows machine. Before doing the following configuration, it is required to select the "Authentication type" as LDAP in the

Configuration screen of Infrastructure. This screen can be accessed by selecting *System Configuration* > *Configuration* in the LHS menu of Infrastructure. In the Windows machine in which LDAP Server is installed, go to the OpenLDAP installation directory through the command prompt and execute the command "`slapd -d 1`" to start the LDAP server.

B.2.18.1 Configure Infrastructure "Configuration Schema"

In the Infrastructure "configuration schema", ensure the following entries in Configuration Table.

Table B–10 Configuration Schema

PARAMNAME	Description	PARAM Value Example
AUTHENTICATIONTYPE	Authentication type	**2** - AUTHENTICATIONTYPE value must be **2** for LDAP
ROOTCONTEXT	The Root Context for the LDAP Directory	`dc=<Reveleus>, dc=<com>`
ROOTDN	The Root dn for LDAP directory	`cn=<Manager>, dc=<Reveleus>, dc=<com>`
ROOTPASS	Password for the Root	<secret>
LDAPURL	LDAP URL	`<ldap://10.80.193.35:389/>`
LDAP_SSL_MODE	LDAP in SSL Mode	**N** for non - SSL and **Y** for SSL
HASHPASS	Should the user password be Hashed	**FALSE** or **TRUE**. When `HASSPASS` is set as **FALSE**, we need to have the `ROOTDN` value as "`uid=ORCLADMIN, ou =Users, dc=OFSAAI, dc=com`". ORCLADMIN is a dummy user, it will be replaced dynamically with the logged in user. When `HASSPASS` is set as **TRUE**, we need to have the `ROOTDN` value as "`cn=orcladmin, cn=Users, dc=i-flex,dc=com`" and proper oracladmin LDAP password as `ROOTPASS`. First OFSAAI connects to LDAP directory using **orcladmin** user and fetches the login user details and verifies the entered password.

Note: ROOTCONTEXT, ROOTDN, and ROOTPASS entries should be same as in the `slapd.conf` file.

B.2.18.2 Configure OpenLDAP Files

1. Copy the `reveleusSchema.schema` from `<Infrastructure Installation Directory> /ficapp/common/FICServer/conf/LDAP_LDIF` folder to LDAPServer Schema folder.
2. Copy the `Domains.ldif` and `Reveleus.ldif` files from `<Infrastructure Installation Directory>/ficapp/common/FICServer/conf/LDAP_LDIF` folder to `OpenLDAPServer` folder.

Note: Make sure that the ROOTCONTEXT in the Domains.ldif and Reveleus.ldif files are the same as slapd.conf file.

3. Provide the appropriate entries for ROOTDN, ROOTPASS, and ROOTCONTEXT in slapd.conf file in the OpenLDAPServer folder.
4. Add the text "include schema/reveleusSchema.schema" as the first line of the slapd.conf file

Note: The above steps of the configuration are for OpenLDAP Server only. If you need to configure Infrastructure for any other LDAP Server, you will have to make the changes appropriately.

5. In the command prompt, navigate to the LDAP installation directory and execute the command "ldapadd -D"ROOTDN" -w ROOTPASS -f/data/Reveleus.ldif"

   This is for creating the entries for Users, User Groups, Functions, Profiles, Segments, Domains, Roles, and HolidayMaster in the Data information Tree of LDAP.
6. Make an entry in the Domains.ldif file for each Information Domain that is created through the Infrastructure UI.

To add an entry corresponding to the new Information Domain to the Domains.ldif file, add the following block of text with the appropriate values:

Note: DSNID refers to Information Domain name.

```
dn: DSNID=<DSN ID>,ou=Domains,@LDAP_DIRECTORY_ROOTCONTEXT@

changetype: add

mappedsegments: <Mapped segments/~>

dsnid: <DSN ID>

infodomname: < Information Domain Name>

objectClass: Infodom

objectClass: top

infodomdescription: < Information Domain Description>
```

Example:

```
dn: DSNID=FUSIONMOCK, ou=Domains, dc=FTP1,dc=com

mappedsegments: ~

dsnid: FUSIONMOCK

infodomname: FUSIONMOCK

objectClass: Infodom

objectClass: top

infodomdescription: FUSIONMOCK
```

Then, navigate to LDAP installation directory and execute the command `"D"ROOTDN" -w ROOTPASS -f/data/Domains.ldif"`

> **Note:** You can add entries for multiple Information Domains at the same time.

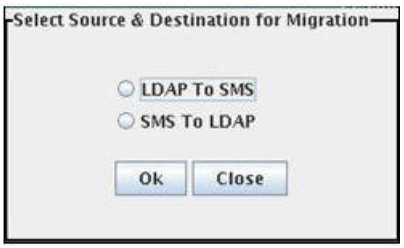
B.2.18.3 Migrate Data from CSSMS tables to LDAP server

If you are using LDAP authentication, it is required to migrate all the details from the CSSMS table, which contains the information entered using the Infrastructure Administration module under Security Management to the LDAP Server.

To migrate data from CSSMS tables to LDAP server:

1. Invoke the `LDAP_Migration.sh` file in `$FIC_HOME/MigrationUtilities/Migration_LDAP/ bin` folder. The *Select Source & Destination for Migration* window is displayed with the option to migrate the data from SMS to LDAP or vice versa.

Figure 8–21 Select Source & Destination for Migration



2. Select the **SMS to LDAP** option and click **OK**. The *Select Entities to Migrate* window is displayed.

Figure 8–22 Select Entities to Migrate

You can select the data that you wish to migrate such as Users, User Groups, Functions, Roles, Segment, Profiles, Holiday Master, Function Role Maps, User - User Group Maps, User Group Role Map, and User Group- Domain Map.

3. Select the entities that you wish to migrate and click Migrate. The data is migrated and a confirmation dialog is displayed.

   You can verify the data migrated to LDAP server through the LDAP Browser.

Note: You should also enter the passwords for all the users as passwords are not migrated in migration process.

B.2.19 Configure OFSAAI Web Services

Web Services in OFSAAI is meant for exposing a web service to "asynchronously" or "synchronously" execute requested tasks offered by OFSAAI. The configuration steps given below are to be done only if you are using the Web Services feature of OFSAAI.

B.2.19.1 Configure DynamicWSConfig.xml File

For each third party web service that needs to be accessed using the OFSAAI Web services framework and the operations to be invoked, corresponding entries are to be made in the `DynamicWSConfig.xml` template file.

The variable `<WebServer>` denotes any one of the application server, that is. WebSphere, WebLogic, or Tomcat.

The `DynamicWSConfig.xml` file will be available in the `<OFSAAI Installation Directory>/EXEWebService/ <WebServer>/ROOT/conf` directory. This file can be placed in any directory that is accessible by the application and this location must be specified in the `web.xml file`, as `WSCONFIGFILE` parameter.

The `DynamicWSConfig.xml` template file will be in `<WebServer Deployment Path>/EXEWebService.ear/EXEWebService.war/conf` directory

This template is given below:

```
<XML>

<WEBSERVICES>

<WEBSERVICE CODE="$CODE"

ENDPOINT="$ENDPOINT" TARGETNAMESPACE="$TARGETNAMESPACE"

XMLNS_XSD="$XMLNS_XSD" ENCODINGSTYLE="$ENCODINGSTYLE"

SERVICENAME="$SERVICENAME" PORTTYPENAME="$PORTTYPENAME"

SESSION_MAINTAIN_PROPERTY="$SESSION_MAINTAIN_PROPERTY"

USERNAME="$USERNAME"

PASSWORD="$PASSWORD" STYLE="$WEBSERVICESTYLE"

STUBIMPLEMENTATION="$STUBIMPLEMENTATION">

<OPERATION CODE="$CODE"

NAME="$NAME"

SOAPACTION="$SOAPACTION"

STYLE="$STYLE"

PACKAGENAME="$PACKAGENAME">

<INPUT ORDER="$ORDER"
```

```
PARAMNAME="$PARAMNAME"
ARGTYPE="$ARGTYPE"
CLASSNAME="$CLASSNAME"/>
<OUTPUT PARAMNAME="$PARAMNAME"
RETURNTYPE="$RETURNTYPE"
CLASSNAME="$CLASSNAME"/>
</OPERATION>
</WEBSERVICE>
</WEBSERVICES>
</XML>
```

The DynamicWSConfig.xml has the placeholders as tabulated below. These have to be updated depending on the web service chosen and the mode of accessing it. For each Web service to be accessed, the entire webservice tag in the DynamicWSConfig.xml file must be repeated. The placeholders tabulated below should be set in accordance to the parameters published in the third party wsdl files (webservices) to be accessed. The stub class specified must implement the "com.iflex.Oracle Reveleus.execution.webservice.EXEWebIF" interface.

Attributes for WEBSERVICE tag

Table B–11 WEBSERVICE tag

Placeholder	Description
$CODE	Unique number within the xml file and cannot be 999 or 0.
$ENDPOINT	soap: address location in the wsdl: service name tag of the wsdl file.
$TARGETNAMESPACE	The attribute value for the targetNamespace of the wsdl: definitions tag.
$XMLNS_XSD	The attribute value for the xmlns:s of the wsdl:definitions tag
$ENCODINGSTYLE	The attribute value for the xmlns:soapenc of the wsdl:definitions tag.
$SERVICENAME	Name of the service found under the wsdl:service name tag of the wsdl file.
$PORTTYPENAME	wsdl port type name as mentioned in the wsdl file.
$SESSION_MAINTAIN_PROPERTY	This could be given as "" also.
$USERNAME	User name to access the web services. Enter "" if no user name is required.
$PASSWORD	Password to access the web services. Enter "" if no password is required.
$WEBSERVICESTYLE	This can take either "rpc" in case of DII mode of invoking web services or "stub" in case of static mode. This is a mandatory parameter.
$STUBIMPLEMENTATION	Fully qualified class name (package name.classname).

Attributes for OPERATION tag

Ensure that the "operation tag attributes" are repeated for each of the operation tags.

Table B–12 OPERSTION tag

Placeholder	Description
$CODE	Should be unique within the Webservice tag.
$NAME	The name of the Function that is to be called by the wsdl file.
$SOAPACTION	The URL for the Operation to access. This is associated with the Operation tag of the wsdl file.
$STYLE	This can take "rpc" if the web services invoking is in DII mode or "stub" if it is in static mode. This is a mandatory parameter.
$PACKAGENAME	Represents the JAXB package of input object.

Attributes for INPUT tag

Table B–13 INPUT tag

Placeholder	Description
$ORDER	The sequential number of the INPUT tag. Should start from 0. This is in line with the input order of the arguments that the API accepts which is called by this operation.
$PARAMNAME	Input parameter name to be called by the wsdl file.
$ARGTYPE	Input Parameter Data Type. If the input argument type is complex object, specify $ARGTYPE as "xmlstring".
$CLASSNAME	Represents class name of input object parameter.

Attributes for OUTPUT tag

Table B–14 OUTPUT tag

Placeholder	Description
$PARAMNAME	Output parameter name to be returned by the web service.
$RETURNTYPE	Output parameter Data Type. If the web service response is a complex object, then specify $RETURNTYPE as "object".
$CLASSNAME	Represents class name of output object parameter.

B.2.19.2 web.xml Entries

Navigate to <OFSAAI Installation Directory>/EXEWebService/<WebServer>/ROOT/WEB-INF/ and edit the web.xml file as explained below.

Entry for WSConfig File

The WSCONFIG file (DynamicWSConfig.xml) is available in the <WebServer Deployment Path>/ EXEWebService.ear/EXEWebService.war/conf directory. This file can be placed in any directory that is accessible by the application.

The path where the WSCONFIG file is placed must be specified in place of $WSCONFIGFILELOCATION$ in the below block of text in web.xml.

```
<context-param>
```

```
<description>WebServices Configuration File</description>
<param-name>WSCONFIGFILE</param-name>
<param-value>$WSCONFIGFILELOCATION$</param-value>
<!--Specify the Location of DynamicWSConFig.xml-->
</context-param>
```

Proxy Settings

The following block of text in `web.xml` file, replace the `<param-value>` given in bold below with appropriate values.

If no values are required, leave the <param-value> blank.

```
<context-param>
    <description>http Proxy Host</description>
    <param-name>http.proxyHost</param-name>
    <param-value>$PROXYHOST$</param-value>
    <!-- Specify the IP address or hostname of the http proxy server-->
</context-param>
<context-param>
    <description>http Proxy Port</description>
    <param-name>http.proxyPort</param-name>
    <param-value>$PROXYPORT$</param-value>
    <!--Port Number for the Proxy Server-->
</context-param>
<context-param>
    <description>http proxy UserName</description>
    <param-name>http.proxyUserName</param-name>
    <param-value>$PROXYUSERNAME$</param-value>
    <!-- User ID To get authenticated by proxy server-->
</context-param>
<context-param>
    <description>http proxy Password</description>
    <param-name>http.proxyPassword</param-name>
    <param-value>$PROXYPASSWORD$</param-value>
    <!-- User Password To get authenticated by proxy server-->
</context-param>
<context-param>
    <description>http non-ProxyHosts</description>
    <param-name>http.nonProxyHosts</param-name>
    <param-value>$NONPROXYHOST$</param-value>
```

```
    <!--Hosts for which the proxy settings should get by-passed (Note:
    Separate them by "|" symbol) -->
</context-param>
```

OFSAAI Home Entry

This entry should point to the Application layer / Web layer of the OFSAAI installation and should be accessible.

Replace `$FIC_HOME$` in the following block of text in `web.xml` with `<WebServer Deployment Path>/EXEWebService.ear/EXEWebService.war`.

```
<context-param>
    <description>OFSAAI Web Home</description>
    <param-name>FIC_HOME</param-name>
    <param-value>$FIC_HOME$</param-value>
    <!--OFSAAI Installation Folder-->
</context-param>
<context-param>
    <description>OFSAAI Web Home</description>
    <param-name>FIC_PHYSICAL_HOME</param-name>
    <param-value>$FIC_HOME$</param-value>
    <!--OFSAAI Installation Folder-->
</context-param>
```

DynamicWSConfig.xml

For each third party web service that needs to be accessed using the OFSAAI Web services framework, and the operation to be invoked, make corresponding entries into this file. This file is to be placed in the location that is specified in the `web.xml`, as `WSCONFIGFILE` parameter.

B.2.20 Deploy OFSAAI Web Services

You can deploy OFSAAI Web Services separately if you had not configured OFSAAI Web Services as part of the installation.

1. Complete the manual configuration of OFSAAI Web Services.
2. Navigate to `<OFSAAI Installation Directory>/EXEWebService/<WebServer>` and execute the command:

   `./ant.sh`

   This will trigger the EAR/WAR file creation, which is required for the deployment.
3. Deploy the generated `EXEWebService.EAR/EXEWebService.WAR` file into the WebServer.

If you have already configured OFSAAI Web Services as part of the installation, deploy the generated `EXEWebService.EAR/ EXEWebService.WAR` file into the OFSAAI Deployment area in WebServer profile.

B.2.21 Configure Oracle database operations

A configuration file, `OracleDB.conf` has been introduced to accommodate any configurable parameter related to operations on oracle database. If you do not want to set a parameter to a specific value, then the respective parameter entry can be removed/commented off form the `OracleDB.conf` file which resides in the path `$FIC_DB_HOME/conf`.

As of now, the `OracleDB.conf` file has only one parameter namely `CNF_DEGREE_OF_PARALLELISM`. This parameter indicates the degree of parallelism to be used for a DML operation if parallel DML is explicitly enabled in the session with the ENABLE PARALLEL DML clause of the ALTER SESSION statement. The default mode of a session is DISABLE PARALLEL DML. If CNF_DEGREE_OF_PARALLELISM is not set, then the default degree, as decided by Oracle will be used.

B.2.22 Configure Message Details in Forms Designer

You can configure the Message Details in Forms Designer under Data Entry Forms and Queries module by updating the details of mail server in the "`NotificationConfig.cfg`" file which resides in the path `$FIC_APP_HOME/common/FICServer/conf`.

Ensure that the "authorized User details" for whom you need to configure the Message details are included in *Administration > Security Management > User Administrator > User Maintenance* window.

Update the following parameters in the "`NotificationConfig.cfg`" file:

Table B–15 NotificationConfig.cfg File

Parameter	Description
`SMTP_SERVER_IP`	Specify the hostname or IP address of SMTP Server.
`SMTP_DEBUG_MODE`	To run SMTP service in Debug mode, set value to 'true', otherwise set value to 'false'.
`SMTP_AUTHORIZATION`	Set to 'true' if SMTP server requires the client to be authenticated, otherwise set to 'false'.
`SMTP_USERNAME`	Username required for logging into SMTP server, if authentication is not required use a dummy value.
`SMTP_PASSWORD`	Password required for logging into SMTP server, if authentication is not required use a dummy value.
`SMTP_MAILID`	If the Messages has to go from a Particular ID that ID need to be added. Exchange server forces you set a valid ID that is there in the exchange server. (Based on Security settings)

Ensure that the authorized User details are included in *Administration > Security Management > User Administrator > User Maintenance* window.

B.2.23 Clearing Application Cache

This is applicable to all Web Servers (that is, WebSphere, WebLogic, and Tomcat).

Prior to the deployment of Infrastructure or Application Service Packs / One-off patches, navigate to the following path depending on the WebServer configured and clear the cache:

- **Tomcat**: `<Tomcat installation folder>/work/Catalina/localhost/<Application name>/org/apache/jsp`
- **WebLogic**: `<Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>/qaelce/jsp_servlet`
- **WebSphere**: `<Websphere installation directory>/AppServer/profiles/<Profile name>/temp/<Node name>/server1/<Application name>/<.war file name>`

B.2.24 Configuring Password changes

This section explains about how to modify the OFSAA Infrastructure Config Schema and Atomic Schema passwords.

B.2.24.1 OFSAA Infrastructure Config Schema password modification

To change the Config Schema password, perform the following steps:

1. Change the Config schema User Password in the database.
2. Delete the `$FIC_HOME/conf/Reveleus.SEC` file.
3. Shutdown the OFSAAI App service:

   ```
   cd $FIC_APP_HOME/common/FICServer/bin
   ./reveleusshutdown.sh
   ```

4. Start the Infrastructure Server in foreground directly on the server or through X-Windows software using the command:

   ```
   ./reveleusstartup.sh
   ```

5. At the prompt, enter System Password. Enter the "new Config schema" password. The service will start and initialize itself if it is able to successfully connect to the DB.
6. Post successful startup of the service, if required, the Infrastructure server may be shut down and restarted in the background using nohup mode.

B.2.24.2 OFSAA Infrastructure Atomic Schema password modification

To change the Atomic Schema password, perform the following steps:

1. Change the Atomic schema User Password in the database.
2. Login to the application from the browser using SYSADMN account or any user id, which has System Administrator role mapped.
3. Navigate to *System Configuration* > *Database Details* window. Select the appropriate connection and edit the password.
4. Navigate to *Unified Metadata Manager* > *Technical Metadata*> *Data Integrator* > *Define Sources* window. Update the appropriate Source details.

5. If you are using Apache Tomcat as Web server, update the `<Context> -> Resource` tag details in `Server.xml` file from the `$CATALINA_HOME/conf` folder. (In case of Tomcat only Atomic <Resource> will exist).

   If you are using WebSphere as Web server:

   a. Login to the WebSphere Administration Console, from the left side menu.

   b. Navigate to *Resources >JDBC >Data Sources*. A list of data sources will be populated on the right side.

   c. Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources will need to be modified).

   If you are using WebLogic as Web server:

   a. Login to the WebLogic Administration Console, from the left side menu

   b. Under Domain Structure list box, expand the appropriate Domain and navigate to *Services > JDBC >Data Sources*. A list of data sources will be populated on the right side.

   c. Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources need to be modified).

6. Restart the OFSAAI services.

B.2.25 Configure Java Virtual Machine

While running several database intensive tasks in parallel, fetching the database connection from connection pool may face an error. To ensure no such error is encountered, add the line `securerandom.source=file:/dev/./urandom` in the **`java.security`** configuration file available in `$JAVA_HOME/jre/lib/security/ path`.

This needs to be con

figured only on the machine where the OFSAAI database components (ficdb layer) are installed.

C

Appendix - Patching Your OFSAA Infrastructure Installation

C.1 Patching Your OFSAA Infrastructure Installation

Oracle strongly recommends installing the latest available patchset so as to be up to date with the various releases of the OFSAA Infrastructure product.

You can refer to the below links on http://support.oracle.com for more information on latest releases and upgrade compatibility:

Latest OFSAAI 7.3 Release and OFSAA 6.0 and 6.1 Release Information (Doc ID 1456593.1)

OFSAAI 7.3 Upgrade and Compatibility Reference (Doc ID 1590502.1)

D

Appendix - Frequently Asked Questions

This section of the document consists of resolution to the frequently asked questions and error codes noticed during OFSAAI installation.

- Frequently Asked Questions
- Error Dictionary

OFSAAI installer performs all the pre-requisite validation check during installation. Any errors encountered in the process is displayed with an appropriate Error Code. You can refer to the Error Dictionary to find the exact cause and resolution to rectify the error.

D.1 Frequently Asked Questions

You can refer to the Frequently Asked Questions which has been developed with the interest to help you resolve some of the OFSAAI Installation and configuration issues. This intends to share the knowledge of problem resolution to a few of the known issues. This is not an official support document and just attempts to share the knowledge of problem resolution to a few of the known issues.

OFSAAI FAQs

What are the different components that get installed during OFSAAI?

The different components of OFSAAI are illustrated in Figure 1–1, "OFSAA Infrastructure Framework".

If OFS AAI/ AAAI needs to be installed on different versions of an Operating System, which installer needs to be downloaded?

OFS AAI/AAAI installer downloaded for a specific Operating System can be used to install on all its supported versions.

For Solaris OS, only one installer OFSAAI_73300_Solaris is available and it can be used to install OFSAAI on both versions of Solaris, that is, v5.10 or v5.11. Similarly, the installer OFSAAI_73300_Linux can be used to install OFSAAI on all supported versions of Oracle Linux, that is, v 5.3 up to 5.10 and v6.0 and above. The installer OFSAAI_73300_AIX can be used to install OFSAAI on all supported versions of AIX, that is, v5.3 and v6.1.

Same is applicable for OFSAAAI installers available for specific Operating Systems.

What are the different modes of OFSAAI installation?

OFSAAI can be installed in two modes, Silent Mode, and GUI mode.

Can the OFSAA Infrastructure components be installed on multi-tier?

No. OFSAA Infrastructure components (ficapp, ficweb, ficdb) cannot be installed on multi-tier. By default, they will be installed on single-tier. However, OFSAA Infrastructure can be deployed within the n-Tier architecture where the Database, Web Server and Web Application Server is installed on separate tiers.

Is JDK (Java Development Kit) required during installation of OFSAA? Can it be uninstalled after OFSAA installation?

JDK is not required during installation of OFSAA and only JRE is required. For more details, refer Table 2–2, Java Runtime Environment section.

Is JRE required during installation of OFSAA? Can it be uninstalled after OFSAAI installation?

Only JRE (Java Runtime Environment) is required during installation of OFSAA and cannot be uninstalled as the JRE is used by the OFSAA system to work.

How do I know what is the Operating system, webservers and other software versions that OFSAA supports?

Refer to OFSAA Technology Stack Matrices.

What are the different files required to install OFSAAI?

The following files are required:

- setup.sh.
- envCheck.sh
- preinstallcheck.sh
- VerInfo.txt
- OFSAAInfrastructure.bin
- validatedXMLinputs.jar
- MyResources_en_US.properties
- log4j.xml
- OFSAAI_PostInstallConfig.xml
- OFSAAI_InstallConfig.xml
- privileges_config_user.sql
- privileges_atomic_user.sql
- XML_Utility.jar

Is OFSAAI license specific to Applications?

No, OFSAAI license is not specific to any application.

Where can I reach out for the license key for installations?

OFSAAI 7.3.3.0.0 installer does not need a license code or a license file. With the license agreement acceptance, one could proceed with the installation.

During installation, when one gets an error message, "Execute Permission denied", what is to be done?

Please check whether all the files provided for OFSAAI installation has execute permissions.

To give execute permissions,

- Navigate to the path `OFSAAI_73300` and execute the command

  `chmod 755`

"Graphical installers are not.."

If error resembles "Graphical installers are not supported by the VM. The console mode will be used instead..." then check whether any of the X-windows software has been installed.

Example: Hummingbird Exceed is started and configured to Graphical mode installation.

Note: Type '`xclock`' from prompt and this should display clock in graphical mode.

"No Java virtual machine could be…"

If the error message reads "No Java virtual machine could be found from your PATH environment variable. You must install a VM prior to running this program", then

- Check whether "java path" is set in PATH variable. See the Table 3–1, " Prerequisite Information"section in this document.
- Check whether sufficient temporary space is available.
- Ensure that the movement of OFSAAI Installer text files to the target system is done in the Text mode so that `setup.sh` file does not contain control line feed characters (^M).

During the installation, what should one do if the error message shows "OracleDriver Files Not Found, Please Choose the Right Path To Continue"?

Check whether the provided path for Oracle Driver files is correct and whether the user has permissions to access the files.

During installation, what is to be done if the error always reads "User must have CREATE TABLE, CREATE VIEW, CREATE TRIGGER, CREATE INDEX, CREATE SEQUENCE, CREATE PROCEDURE" even though the oracle schema user created has the mentioned privileges?

OFSAAI installer validates the database details provided during installation, so ensure:

- Whether the oracle schema user has the required set of privileges for successful installation.
- Whether the oracle schema user has been created with quota privileges on tablespace to create database objects.

See the Table 3–1, " Prerequisite Information"section in this document.

Installation of OFSAAI was completed successfully! What next?

Post the successful completion of OFSAAI installation, one has to perform the Post Installation steps. See Chapter 5, "Post Installation Configuration".

What is to be done when OFSAAI Installation is unsuccessful?

OFSAAI installer generates log file `OFSAAInfrastructure_Install.log` in the Infrastructure Installation Directory. There is also another log file created in the path configured in `Log4j.xml`. The logs of any of these reported, Warnings/Non Fatal Errors/Fatal Errors/Exceptions should be brought to the notice of the OFSAAI Customer Support. It is recommended not to proceed, until the reported problems are adequately addressed.

How do I completely uninstall OFSAAI?

OFSAAI can be completely uninstalled by performing the steps provided in Chapter 8, "Uninstalling OFSAA Infrastructure".

How to grant privileges if a new information domain is created?

If you are creating a new information domain, provide a set of privileges (database permissions) to the new Atomic schema.

- Log into the database as **sys** and connect as **sysdba** user.
- Execute the file `privileges_config_user.sql` available under `$FIC_HOME` directory
- Enter the database schema for which you want to grant privileges.

When should I run the MLS utility?

See the Multiple Language Support (MLS) Utility section in *OFSAAI Administration Guide* in the Related Documents section.

Does OFSAAI support Oracle Linux versions other than 5.5?

OFSAAI supports the Oracle Linux versions from 5.5 up to 5.10.

On the UNIX System terminal, error message shows "Insert New Media. Please insert Disk1 or type it's location" while executing ./setup.sh, what should be done?

1. Login as root user on the Unix machine where OFSAAI is getting installed.
2. Navigate to the path `/etc/security/`.
3. Edit the file `limits.conf` to add/edit a row for the unix user installing OFSAA:

   ```
   <Unix User> soft nofile 9216
   ```

4. After saving the changes, log in as unix user with which OFSAAI is getting installed and execute the command:

   ```
   ulimit -n
   ```

The command should return the value 9216.

How does one verify if the system environment is ready for OFSAAI installation?

To verify the system environment meets the minimum requirements for the installation, a Pre-Install Check utility is available within the Install Kit archive file. This utility can also be obtained separately by contacting Oracle Support.

See Verifying the System Environment section for additional information.

How does one know if the installation is completed successfully?

The OFSAA Infrastructure installation performs a post install health check automatically on successful installation of the product. To rerun the post install verification at a later time, perform the following steps:

1. Navigate to the path `$FIC_HOME` (Product Installation Directory).
2. Execute the command:

   ```
   ./piverify.sh
   ```

What should one do if the installation in GUI mode is not invoked?

There are set of configuration steps required to be performed during the installation in GUI mode. Verify whether the steps mentioned under Configuration for GUI Mode Installation section are done correctly.

What should one do if there are any exceptions or errors in installation and how to proceed?

1. Please backup the installation logs.
2. Share the backup logs with Oracle support.

On Solaris 11 system, if one gets the following error message during OFSAAI installation, what should be done:

"Error: OFSAAI-1108

ORA-00604: error occurred at recursive SQL level 1

ORA-01882: timezone region not found"

Or

"Time zone cannot be set as null or 'localtime' "

This happens if the time zone is not set, that is NULL or it is set as'localtime'. Set the environment variable TZ to a valid time zone region in the `.profile` file. For example,

```
TZ=Asia/Calcutta

export TZ
```

What happens if the installation process is abruptly terminated or aborted? What should one do?

If the installation is abruptly terminated, then the installation process will be incomplete. To recover from this, follow the below steps:

1. Drop the DB objects in the config schema created by OFSAAI installation.
2. Open the `.profile` and remove the entries made by the OFSAAI installation which are made between the comment statements, #Beginning of entries by OFSAA Infrastructure installation and #End of entries by OFSAA Infrastructure installation.
3. Delete the OFSAA install directory created by the OFSAAI installer.
4. Perform the OFSAAI installation again.

Would OFSAA support any other web server types, other than the ones stated in tech matrix and installation guide?

No, all the supported software and versions are stated in the OFSAA Technology Stack Matrices.

What should one do if the database connection from connection pool throws an error "java.sql.SQLRecoverableException: IO Error: Connection reset"?

This happens while running several database intensive tasks in parallel. To correct this error, add the line `securerandom.source=file:/dev/./urandom` in the `java.security` configuration file available in `$JAVA_HOME/jre/lib/security/` path.

Note: This needs to be configured on all the machines or VMs where the OFSAAI components are installed.

If the issue is not resolved even with the above settings, check the MTU(Maximum Transmission Unit) settings on the linux box. For details on MTU settings and updating them, contact your system Administrator.

When I invoke setup.sh file from my install archive, it throws syntax errors/file not found error messages, what should I do?

This could mostly happen:

- When installer was not unzipped rightly or corrupted during unzip.
- setup.sh file which resides within the install archive was not transferred in ASCII or text mode, which could have corrupted the file.

To correct this, follow the steps:

1. Copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.
2. Unzip the installer using the command:

   ```
   unzip <OFSAAI_Installer>.zip
   ```

3. The corrupted `setup.sh` file would have introduced certain ^M characters into the file. You can remove ^M characters from setup.sh file by following the below steps:

a. Login to the server where the installer is copied.

b. Navigate to the directory `OFSAAI_73300`.

c. Open the `setup.sh` file in the **vi** editor using the command: `vi setup.sh`.

d. Inside vi editor in Esc mode, type: **`%s/^M//g`**

Note: To enter ^M, hold the CTRL key then press V and M in succession.

---

e. Save the `setup.sh` file by typing: **`wq!`**

Does OFSAA support Oracle DB 11g Standard edition?

The OCI client and the jdbc driver does not change depending on whether it is a standard or enterprise edition. So, OFSAAI will work with standard edition as well.

We do not recommend standard edition because it will not scale and does not support partition pack, database security vault, or advanced analytic.

On the UNIX System terminal, Error message shows "./reveleusstartup.sh: /java: Execute permission denied" while executing ./reveleusstartup.sh file. What is to be done?

- Ensure JAVA_BIN environment variable path is set on the "unix user" terminal from where the `reveleusstartup.sh` file is invoked.
- Ensure the `.profile` where the environment/ path settings are made has been executed successfully.

OFSAAI Login page does not come up, error message "Could not retrieve list of locales" is displayed. What should one do?

This could be due to 2 reasons:

- System is unable to resolve the hostname configured.
- Conflict with the ports configured.

To correct them, follow the below steps:

A. Steps to replace the hostnames with IP address:

1. Stop all the OFSAA services. See Stopping Infrastructure section on how to stop the services.
2. Replace all the hostnames with the IP address in all the places mentioned in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 7.2 Installation (DOC ID 1500479.1)).
3. Restart all the OFSAAI services. See Starting Infrastructure section.

B. Steps to correct the port number conflicts

1. Stop all the OFSAA services.
2. Refer to the port numbers stated in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 7.2 Installation (DOC ID 1500479.1)) and check on the discrepancy in the port numbers and correct them.
3. Restart all the OFSAAI services.

What happens when the OFSAAI Application Server does not proceed even after providing the system password?

Ensure that, the System Password provided when prompted should match with the "Oracle Configuration password" provided during installation. Also check whether the connection to the "configuration schema" can be established through sqlplus.

Although the OFSAAI installation has completed successfully, when OFSAAI servers are started, and the application URL is accessed, it gives an error message "the page cannot be found or displayed" or "Could not retrieve list of languages from Server. Please contact the system administrator". What should one do?

Ensure OFSAAI servers have been started and are running successfully. On the server start up parameters options, see Starting Infrastructure section.

For more details on the issue, refer on to the Revappserver log in `$FIC_APP_HOME/common/FICServer/logs` directory or the Web Server log files.

Is it necessary to provide the specified grants to the Oracle schema user before installation? If yes, can it be revoked after completion of installation?

The "Oracle schema" user requires the necessary grants specified before, during, and after the installation process. Grants provided should never be revoked as the application makes use of these grants all the time.

Can we have distributed OFSAAI Application Server for load balancing?

OFSAAI Application server can be scaled out/distributed across different JVM's (machines) based on the various services and Information Domains, in other words, Load balancing could be achieved with distribution of services.

Why do we need Ftpshare? Why is it needed on all the layers? Can we have ftpshare on another machine other than the machines where OFSAAI is installed?

Ftpshare is a Metadata Repository directory. All the metadata related files used in Infrastructure are stored in the ftpshare directory. The ftpshare contains folders for each Information Domain, with each Information Domain folders holding Erwin, log, and scripts folder. The transfer of data among the Web, Application, and Database servers in Infrastructure takes place through FTP/SFTP.

You need to configure FTP/SFTP and enable communication between the servers by providing App server's FTP/SFTP credentials to the Web server and DB server users.

Yes, we can have ftpshare on another machine other than the machines where OFSAAI is installed.

Is it mandatory to provide the ftp/sftp password?

Yes, OFSAAI needs credentials of the user which has complete permissions on ftpshare directory, and should be able to independently login to the unix server.

What are the permissions required for ftpshare and when should I give them?

It is recommended to provide 777 permissions on ftpshare in case of installations done across different machines or VMs (multi tier installation).

In case of single tier installation, 770 permissions can be provided if the unix users of OFSAAI and web server belong to the same unix group.

And on any new file that is created in the 'ftpshare' folder of any installation layer should be granted specific/explicit permission.

Port Change utility could be used to have the Port number modified, which are currently being used by the Infrastructure application. For more information, refer Configure Infrastructure Ports section.

Are there any in-built system administration users within OFSAAI Application?

The three in-built system administration users are provided to configure and setup OFSAAI.

- SYSADMN
- SYSAUTH
- GUEST

Does OFSAAI Application support both FTP and SFTP?

OFSAAI supports both FTP and SFTP configuration.

Is it necessary to enable the FTP/SFTP services to use the OFSAAI?

Yes, enabling of FTP/SFTP services and its ports is a pre-requisite step towards using the OFSAAI.

OFSAAI Configuration: Unable to save the server details?

- Ensure the input User ID, Password, and Share Name are correct.
- Ensure FTP/SFTP services are enabled.
- Have a test FTP/SFTP connection made and confirm if they are successful.

During Information Domain creation, the message "Please create a database and then create the information domain" appears. What should be done?

Information Domain is mapped to only one Database; and thus before the creation of Information Domain, at least one database details would need to exist.

The message "ConnectToDatabase: FatalError, could not connect to the DB server" appears during startup of backend engine message server. What does one need to do?

- Verify whether connection to the "configuration schema" can be established through sqlplus.
- Verify "configuration schema" password is modified post installation.
- Ensure oracle database alias name created for oracle instance and oracle service name are same.
- On a multi tier Installation mode, ensure TNSNAME and SID are the same in both the Application and Database Layers.

The message "Fatal Error, failed to get user ID from LibSmsConnect" appears during the startup of backend engine message server. What has to be done?

Ensure Reveleus.sec file exist under the $FIC_HOME/conf directory where the Database components are installed.

Does OFSAAI Application support LDAP authentication?

OFSAAI supports LDAP configuration and authentication.

Does OFSAAI support multiple languages?

Yes, OFSAAI supports multiple languages.

Does OFSAAI provide any data back-up features?

OFSAAI does not have built-in back up facility. External Storage Infrastructure is recommended for back-up.

What kind of security features does the OFSAAI provides?

OFSAAI provides security at:

- Segment Level - Users can access only the segment they are mapped to.
- Application Level - Users can perform an operation only if mapped to appropriate role and functions.

Does OFSAAI have the ability to enforce periodic password change?

OFSAAI provides configurable parameters to define number of days after which the user password would expire and then the user is forced to change the password after expiration period.

What is the password policy followed in OFSAAI?

OFSAAI enforces a minimum password length with a combination of Upper and Lower case characters and alpha-numeric strings.

Which version of Erwin Data Modeller does OFSAAI support?

OFSAAI now supports ERwin version 9.2 and 9.5 generated xmls in addition to ERwin 4.1, ERwin 7.1, ERwin 7.3 and ERwin 9.0 formats.

Does OFSAAI provide the mechanism to upload Business Data model?

OFSAAI provides two mechanisms for business data model upload:

- Easy to use GUI based Model upload mechanism to upload the Business Data Model through Unified Metadata Manager --> Import Model.
- OFSAAI also provides a model upload utility "`upload.sh`" for uploading the business data model through the command line parameter by executing this shell script file under the path `<FIC_HOME>/ficapp/common/FICServer/bin`.

See Run the Model Upload Utility section for details.

The Business Data model undergoes changes; how does this incremental change get applied to the existing model?

Modified data model can be uploaded into the system and OFSAAI has the ability to compare the changes within the data model with respect to the one already present in the system and enables propagation of incremental changes in a consistent manner.

What are the different types of uploading a business data Model?

OFSAAI supports uploading of business data model from client desktop and also by picking up the data model from the server location.

Can the OFSAAI "Configuration Schema" password be modified post installation?

The OFSAAI "configuration schema" password can be modified post installation. OFSAAI application stores the password in the database and few configuration files, thus any changes to the "configuration schema" password would necessitate updating in these. Contact OFSAAI support for more details.

Can the OFSAAI "Atomic Schema" password be modified?

The OFSAAI "Atomic Schema" password can be modified. OFSAAI application stores the atomic schema password in the database and few configuration files, thus any change to the atomic schema password would necessitate updating the password.

To change the Atomic Schema password, follow the steps:

1. Login to OFSAA.
2. Navigate to System Configuration > Database Details window. Select the appropriate connection, provide the modified password and save.
3. Navigate to Unified Metadata Manager > Technical Metadata> Data Integrator > Define Sources window. Update the appropriate Source details.
   a. If you are using Apache Tomcat as Web server:
   * Update the <Context> -> Resource tag details in `server.xml` file from the `$CATALINA_HOME/conf` folder. (In case of Tomcat only Atomic <Resource> will exist).
   b. If you are using WebSphere as Web server:
   * Login to the WebSphere Administration Console from the left side menu.
   * Navigate to Resources >JDBC >Data Sources. A list of data sources will be populated on the right side.
   * Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources need to be modified).
   c. If you are using WebLogic as Web server:
   * Login to the WebLogic Administration Console from the left side menu.
   * Under Domain Structure list box, expand the appropriate Domain and navigate to Services > JDBC >Data Sources. A list of data sources will be populated on the right side.
   * Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources need to be modified).
4. Restart the OFSAAI services

Note: If the modified passwords are not updated, OFSAAI logs displays the message ORA-28000: the account is locked.

Does the upload of Business Data model depend on Java Memory?

Business data model upload through OFSAAI depends on the Java memory settings on the client and server machines. Java memory setting varies with the data model size and the available RAM. Contact OFSAAI support for more details.

Why do the Business Metadata Management screens (Business Processors screen) in User Interface, takes longer time to load?

The Log file in `DynamicServices.xml` which resides in `$FIC_HOME/conf` is continuously being updated/refreshed to cache meta data. This can be observed when you are starting `reveleusstartup.sh` and if any of the log file (Ex: SMSService.log) in `DynamicServices.xml` is being continuously refreshed for longer time.

By default, the Metadata Log file cache size is set to 1000. If in case the log is being updated beyond this limit, retrospectively the preceding entries are overwritten. For example, the 1001th entry is overwritten by deleting the first entry. This results in the application screen taking a longer time to load.

Increase the cache size limit in `Dynamicservices.xml` located at `<FIC_HOME>/conf`, depending on the currently logged count for the specific metadata.

1. Generate the Log report by executing the below query in config schema.

```
select count(1), t.metadata_name, m.dsn_id
from metadata_master m, metadata_type_master t
where m.metadata_type = t.metadata_type
group by t.metadata_name, m.dsn_id
```

2. The above query returns a list of codes with their respective metadata count. You can refer to "metadata_type_master" table to identify the metadata name.
3. View the log report to identify the metadata which is being updated/refreshed beyond the specified cache size limit. Accordingly increase the cache size limit in Dynamicservices.xml depending on the currently logged count for the specific metadata.

   For example, if the "MEASURE_CACHE_SIZE" is set to 1000 and total measure reported in log is 1022, increase the limit to 2000 (approximately).
4. Restart Reveleus/OFSAAI servers (Web and APP) and check the issue.

What should I do if I get OutOfMemoryError while deploying EAR file in WebSphere application server?

The Java memory needs to be increased in `ejbdeploy.sh` file which is present under `<WebSphere Install directory>/AppServer/deploytool/itp`. For example,

```
$JAVA_CMD \
-Xbootclasspath/a:$ejbd_bootpath \
Xms256m -Xmx1024m \
```

What configurations should I ensure if my data model size is greater than 2GB?

In order to upload data model of size greater than 2GB in OFSAAI Unified Metadata Manager- Import Model, you need to configure the required model size in `struts.xml file` available in the path `$FIC_WEB_HOME/webroot/WEB-INF/classes`.

Note: The size requirements have to be always specified in bytes.

For example, if you need to configure for model size of 2.5GB, then you can approximately set the max size to 3GB (3221225472 bytes) as indicated below, in order to avoid size constraints during model upload.

```
<constant name="struts.multipart.maxSize" value="3221225472"/>
```

After configuring `struts.xml` file, generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, see Configuring Web Application Servers.

What should I do if my Hierarchy filter is not reflecting correctly after I make changes to the underlying Hierarchy?

In some cases, the Hierarchy Filters do not save the edits correctly if the underlying Hierarchy has been changed. This can occur in hierarchy maintenance, where you have moved a member to another hierarchy branch, and that member was explicitly selected in the Filter and is now a child of a node which is already selected in the Filter.

Please refer to Support Note for the workaround.

What should I do to change context name for a cloned environment?

Refer to Support Note.

How do you turn off unused information domains (infodoms) from cache?

Follow the below steps to turn off unused infodoms from cache:

Navigate to `$FIC_HOME/conf` in the APP layer of your OFSAAI installation.

1. In the `DynamicServices.xml` file, identify the section for <Service code="20">.
2. Modify the value of parameter CACHE_ON_STARTUP to 0 (default is 1).
3. Repeat the same in the WEB layer too. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, see Configuring Web Application Servers.
4. Restart the OFSAAI Services (APP and WEB). For more information, see Start / Stop Infrastructure Services chapter.

Note: This setting will cache the Infodom metadata only for the infodoms that get accessed upon user login. Infodoms which do not get accessed, will not be cached.

Sample code is pasted below:

```
<SERVICE CODE="20"

CLASS="com.iflex.fic.metadata.services.MetadataServiceProvider"
NAME="BMD"

SERVERID="DEFAULT" PATH=" " LOGGERNAME="UMMLOGGER" LOGGERLEVEL="10">

<PARAMETERS>

<PARAMETER NAME="CACHE_ON_STARTUP" VALUE="0" />

<PARAMETER NAME="BACKUP_XML" VALUE="1" />

<PARAMETER NAME="MAX_BACKUP_XML" VALUE="2" />

<PARAMETER NAME="PC_NONBI_BI_SWITCH" VALUE="2048" />

<PARAMETER NAME="HIERARCHY_NODE_LIMIT" VALUE="2000" />

<PARAMETER NAME="ALIAS_CACHE_SIZE" VALUE="1000" />

<PARAMETER NAME="DATASET_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="MEASURE_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="HIERARCHY_CACHE_SIZE" VALUE="2000" />
```

```
<PARAMETER NAME="DIMENSION_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="HIERARCHYATTRIBUTE_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="CUBE_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="RDM_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="BUSINESSPROCESSOR_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="DERIVEDENTITY_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="LOG_GET_METADATA" VALUE="false" />
<PARAMETER NAME="METADATA_PARALLEL_CACHING" VALUE="0" />
</PARAMETERS>
</SERVICE>
```

D.2 Error Dictionary

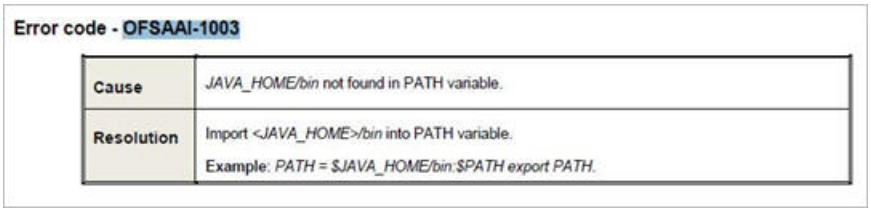
This contents of this section has been created with the interest to help you resolve the installation issues if any. There is a compilation of all the possible errors that might arise during the installation process with the possible cause and the resolution to quickly fix the issue and proceed further with the installation.

D.2.1 Accessing Error Dictionary

Instead of scrolling through the document to find the error code, you can use the pdf search functionality. In the "Find" dialog available in any of the Adobe Acrobat version that you are using to view the pdf document, follow the below instructions to quickly find the error resolution.

1. With the Installation pdf open, press **Ctrl**+**F** or select **Edit** > **Find**.
2. The *Find* dialog is displayed as indicated.
3. Enter the error code that is displayed on screen during Infrastructure installation.
4. Press **Enter**. The search results are displayed and highlighted as indicated below.

Figure 8–23 *Error Dictionary*



View the details of the issues, its cause, and resolution specific to the error code. Repeat the step to find an answer to any other errors that you notice during installation. If you are not able to resolve the issue even after following the steps provided in resolution, you can contact support.oracle.com along with log files and appropriate screen shots.

D.2.2 Error Code Dictionary

Error code - OFSAAI-1001

Cause	Unix shell is not "korn" shell.
Resolution	Change the shell type to "korn". Use chsh unix command to change SHELL type. Shell type can also be changed by specifying shell path for the Unix user in `/etc/passwd` file. Note: chsh command is not available in Solaris OS.

Error code - OFSAAI-1002

Cause	No proper arguments are available.
Resolution	Provide proper arguments. Invoke `Setup.sh` using either SILENT or GUI mode. Example: `./Setup.sh SILENT` or `./Setup.sh GUI`

Error code - OFSAAI-1004

Cause	File `.profile` is not present in `$HOME`.
Resolution	Create `.profile` in `$HOME`, i.e. in the home directory of user.

Error code - OFSAAI-1005

Cause	File `OFSAAInfrastructure.bin` is not present in current folder.
Resolution	Copy `OFSAAInfrastructure.bin` into installation kit directory.

Error code - OFSAAI-1006

Cause	File `CustReg.DAT` is not present in current folder.
Resolution	Copy `CustReg.DAT` into installation kit directory.

Error code - OFSAAI-1007

Cause	File `OFSAAI_InstallConfig.xml` is not present in current folder.
Resolution	Copy `OFSAAI_InstallConfig.xml` into installation kit directory.

Error code - OFSAAI-1008

Cause	File `validateXMLInputs.jar` is not present in current folder.
Resolution	Copy `validateXMLInputs.jar` into installation kit directory.

Error code - OFSAAI-1009

Cause	File `log4j.xml` is not present in current folder.
Resolution	Copy `log4j.xml` into installation kit directory.

Error code - OFSAAI-1010

Cause	Unknown error occurred.
Resolution	Make sure to provide proper argument (SILENT or GUI) to the `Setup.sh` file.

Error code - OFSAAI-1011

Cause	XML validation failed.
Resolution	Check InfrastructurePreValidations.Log for more details.

Error code - OFSAAI-1012

Cause	Property file with locale name does not exist.
Resolution	Copy `MyResources_en_US.properties` to the setup kit directory and keep `en_US` in `LOCALE` tag of `OFSAAI_InstallConfig.xml`.

Error code - OFSAAI-1013

Cause	File `OFSAAI_InstallConfig.xml/OFSAAI_PostInstallConfig.xml` not found.
Resolution	Copy `OFSAAI_InstallConfig.xml/OFSAAI_PostInstallConfig.xml` to the setup kit directory.

Error code - OFSAAI-1014

Cause	XML node value is blank.
Resolution	Make sure all node values except SMTPSERVER, PROXYHOST, PROXYPORT, PROXYUSERNAME, PROXYPASSWORD, NONPROXYHOST, or RAC_URL are not blank.

Error code - OFSAAI-1015

Cause	XML is not well formed.
Resolution	Execute the command `dos2unix OFSAAI_InstallConfig.xml` to convert plain text file from DOS/MAC format to UNIX format. OR Make sure that `OFSAAI_InstallConfig.xml` is valid. Try to open the file through Internet Explorer for a quick way to check validity. If it is not getting opened, create new `OFSAAI_InstallConfig.xml` using the `XML_Utility.jar`.

Error code - OFSAAI-1016

Cause	User installation directory contain blank spaces.
Resolution	Provide an installation path that does not contain spaces. Check the tag `USER_INSTALL_DIR` in `OFSAAI_InstallConfig.xml` file. This path should not contain any spaces.

Error code - OFSAAI-1017

Cause	User installation directory is invalid.
Resolution	Provide a valid installation path. Check if you are able to create the directory mentioned in `USER_INSTALL_DIR` tag value of `OFSAAI_InstallConfig.xml` file.